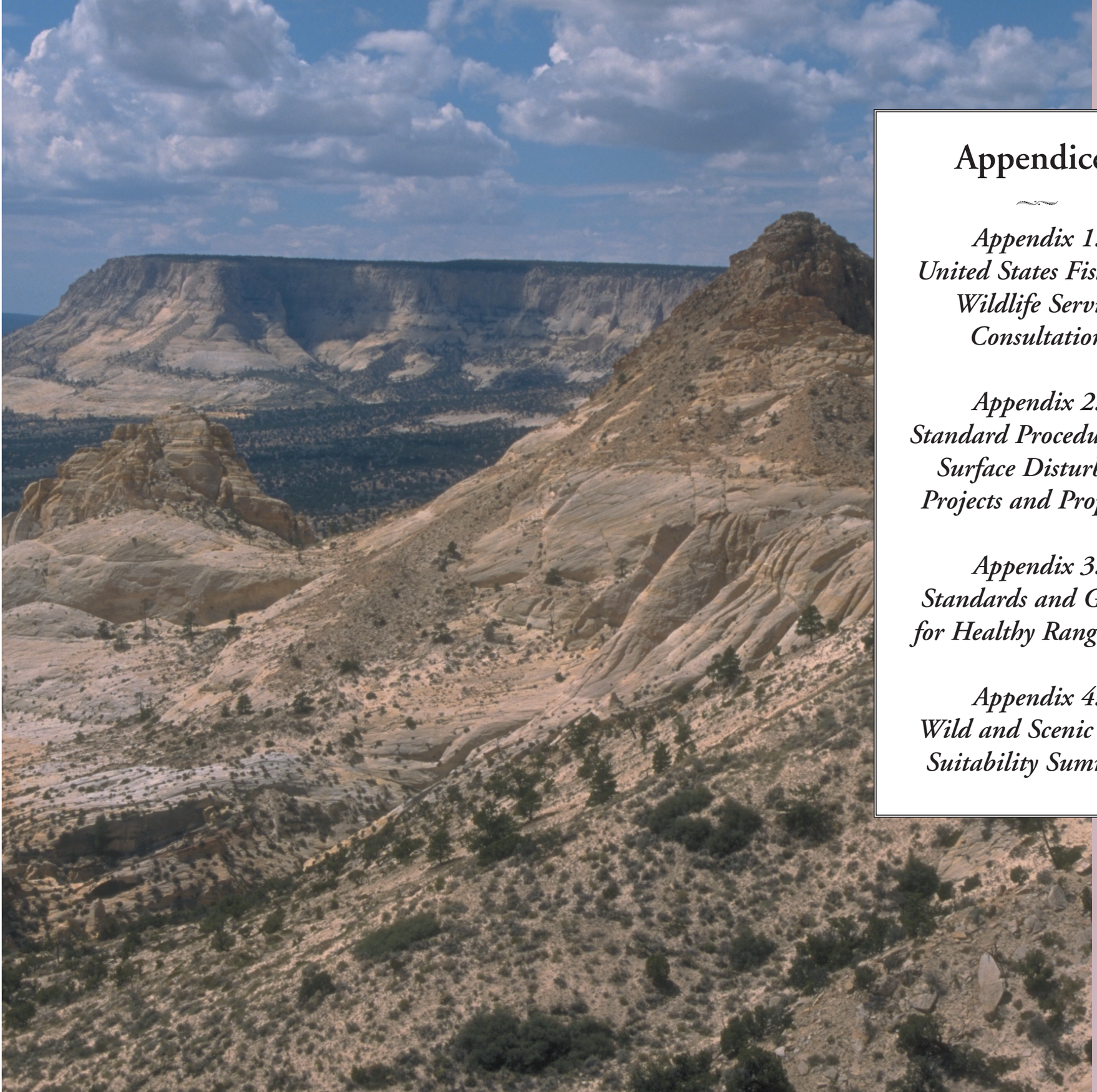


Appendices

Appendix 1:
United States Fish and Wildlife Service Consultation

Appendix 2:
Standard Procedures for Surface Disturbing Projects and Proposals

Appendix 3:
Standards and Guides for Healthy Rangelands

Appendix 4:
Wild and Scenic River Suitability Summary

United States Department of the Interior
FISH AND WILDLIFE SERVICE
UTAH FIELD OFFICE
LINCOLN PLAZA
145 EAST 1300 SOUTH, SUITE 404
SALT LAKE CITY, UTAH 84115

In Reply Refer To
(CO/KA/NE/UT)

September 16, 1999

RECEIVED
SEP 17 1999
GRAND STAIRCASE-ESCALANTE
NATIONAL MONUMENT

MEMORANDUM

TO: Monument Manager, Bureau of Land Management, Grand Staircase-Escalante National Monument, 337 South Main, Suite 010, Cedar City, UT 84720

FROM: Field Supervisor, Utah Field Office, U.S. Fish and Wildlife Service, Ecological Services, Salt Lake City, Utah

SUBJECT: Endangered Species Act Compliance For the Proposed Management Plan on the Grand Staircase-Escalante National Monument, July 1999

We have reviewed the Final Environmental Impact Statement for Proposed Management Plan (PMP) for the Grand Staircase-Escalante National Monument with special emphasis on impacts to listed Endangered and Threatened Species. As stated in the PMP, we concur with your determination that actions proposed in the PMP will not adversely affect any listed species and will likely be beneficial to most, if not all, of those species.

Should you have any questions or need anything further please contact Larry England or Lucy Jordan, of my staff, at 801-524-5001

Kent E Hawi

United States Department of the Interior
FISH AND WILDLIFE SERVICE
UTAH FIELD OFFICE
LINCOLN PLAZA
145 EAST 1300 SOUTH, SUITE 404
SALT LAKE CITY, UTAH 84115

In Reply Refer To
(CO/KS/NE/UT)
(6-UT-99-F-002)

May 19, 1999

Memorandum

To: Monument Manager, Bureau of Land Management, Cedar City, Utah

From: For Field Supervisor, Fish and Wildlife Service, Salt Lake City, Utah

Subject: Biological Opinion for the Draft Management Plan for the Grand Staircase-Escalante National Monument

This memorandum constitutes our biological opinion on the subject action in response to your March 11, 1999 letter with attached biological assessment requesting initiation of formal interagency consultation under Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) and the Interagency Cooperation Regulations (50 CFR 402).

Your biological assessment states that Alternatives B (the preferred alternative), C, D, and E (Alternative A is the no action or no management change alternative) are not likely to adversely affect the bald eagle, peregrine falcon, Mexican spotted owl, southwestern willow flycatcher, California condor, Kanab ambersnail, Jones' cycladenia, and Kodachrome bladderpod . Furthermore, the actions described for each species would likely be beneficial to the recovery and conservation of these species. The endangered fish endemic to the Colorado River, the Colorado pikeminnow and razorback sucker are not known from waters within the Monument nor are any actions covered by the Draft Management Plan expected to affect these species or their critical habitat. The Ute ladies'-tresses may be affected by alternatives B, C, D and E but would not be adversely affected. To ensure that Ute ladies'-tresses is not aversely affected the Bureau will implement several conservation measures to provide protection to the species.

BIOLOGICAL OPINION

Based upon the best scientific and commercial information that is currently available, it is the Service's biological opinion that the implementation of alternatives B, C, D, and E of the Draft Grand Staircase - Escalante Management Plan (Plan) are not likely to jeopardize the continued existence and will likely enhance the conservation and recovery of the following species:

bald eagle (*Haliaeetus leucocephalus*)
peregrine falcon (*Falco peregrinus*)

Mexican spotted owl (*Strix occidentalis lucida*)
southwestern willow flycatcher (*Epidonax traillii extimus*)
California condor (*Gymnogyps californianus*)
Kanab ambersnail (*Oxyloma haydeni kanabensis*)
Jones' cycladenia *Cycladenia humilis jonesi*)
Kodachrome bladderpod (*Lesquerella tumulosa*).

The implementation of the Plan will not affect the following species:

Colorado pikeminnow (*Ptychocheilus lucius*)
razorback sucker (*Xyrauchen texanus*)

The implementation of the Plan will affect the following species but is not likely to jeopardize the continued existence of the following species provided that the Conservation Measures described in this document are implemented. These Conservation Measures will contribute to the conservation and recovery of the species and eliminate any adverse impacts to the species and its habitat. These Conservation Measures are, also, included in the biological assessment.

Ute ladies'-tresses (*Spiranthes diluvialis*)

PROJECT DESCRIPTION

The Draft Management Plan for the Grand Staircase Escalante National Monument (Monument) identifies those criteria which will guide management direction of the natural resources of the Monument including: vegetation management, livestock grazing management, off-highway vehicle use management, water use management, and recreation management.

Basis for Opinion - Ute Ladies'-tresses Orchid

The Ute ladies'-tresses orchid (*Spiranthes diluvialis*) was listed as a threatened species on January 17, 1992 under the authority of the Endangered Species Act.

Spiranthes diluvialis is a perennial, terrestrial orchid that typically grows in relatively low elevation riparian, spring, and lake side wetland meadows. Populations of *S. diluvialis* are known from three general areas of the interior western United States: near the base of the eastern slope of the Rocky Mountains in southeastern Wyoming and north-central and central Colorado; in the upper Colorado River basin; and in the Bonneville Basin along the Wasatch Front and westward in the eastern Great Basin.

The Colorado River Basin populations of *S. diluvialis* occur almost exclusively in riparian meadows. The principal populations of the species in this area are in the Uinta Basin and along the Green and Yampa Rivers in adjacent Daggett County Utah and Moffat County Colorado. As described in the biological assessment Ute ladies'-tresses populations occur within the riparian meadows along Deer Creek. The population at Deer Creek within the Escalante - Grand

Staircase National Monument is a significant outlier population and the only viable population within the Colorado Plateau outside of the immediate vicinity of the Uinta Basin.

Spiranthes diluvialis is endemic to moist soils or wet meadows near springs, lakes, or perennial streams. The range in elevation of known S. diluvialis occurrences is from 1311 to 2134 meters (4,300 to 7,000 feet) (Stone 1993). Most of the western occurrences are along riparian edges, gravel bars, old oxbows, high flow channels and backwater areas, and moist to wet meadows along perennial streams. Jennings (1990) and Coyner (1989, 1990) observed that *S. diluvialis* seems to require "permanent sub-irrigation", indicating a close affinity with floodplain areas where the water table is near the surface throughout the growing season and into the late summer or early autumn. Soils in occupied habitat are always damp to the surface during the flowering period. This observation has been corroborated by ground water monitoring research conducted in Dinosaur National Monument (Martin & Wagner 1992) and in Boulder, Colorado (T. Naumann, City of Boulder Open Space Department, pers. comm., 1993).

Spiranthes diluvialis occurs primarily in areas where the vegetation is relatively open and not overly dense or overgrown (Coyner 1989, 1990 and Jennings 1989, 1990). A few populations in eastern Utah and Colorado are found in riparian woodlands, but *S. diluvialis* seems generally intolerant of shade, preferring open, grass, sedge, and forb-dominated sites instead. Typically, the vegetation is composed of a mixture of obligate-wetland and facultative-wetland species. Plants usually occur as small scattered groups and occupy relatively small areas within the riparian system (Stone 1993).

Spiranthes diluvialis appears to be well adapted to disturbances caused by water movement through flood plains over time (T. Naumann, City of Boulder Open Space Department, pers. comm., 1992, L. Riedel, National Park Service, pers. comm., 1994). The species often grows on point bars and stream edges where sediment deposition and re-vegetation is occurring following recent scour events. *Spiranthes diluvialis* is tolerant of flooding and flood disturbance. For example, point bars and backwater areas (old oxbows, side channels, etc.) are often flooded for several months in the spring during snowmelt.

Very little is known about the life history and demography of *S. diluvialis*. Many orchid species remain below ground for several years in a symbiotic relationship with a mycorhizal fungus. When mature, they may not emerge aboveground every year. *Spiranthes diluvialis* first appears aboveground as a rosette of thickened grasslike leaves that is very difficult to distinguish from other vegetation. A distinctive flower stalk appears in late summer (July through September), and location, identification, and population size estimates are typically determined then. Some individuals remain under ground or do not flower each year. Thus, fluctuations in numbers of observed flowering individuals do not necessarily correspond to population fluctuations or indicate habitat alterations.

CONSERVATION MEASURES

The following conservation measures are stated, in the Grand Staircase - Escalante National Monument Planning Office's "BIOLOGICAL ASSESSMENT FOR THREATENED AND

ENDANGERED SPECIES FOR GRAND STAIRCASE - ESCALANTE NATIONAL MONUMENT DRAFT ENVIRONMENTAL IMPACT STATEMENT AND DRAFT MANAGEMENT PLAN".

1. The Bureau will implement an active noxious weed program in the Monument. Areas with threatened or endangered plants will be targeted for this activity as a first priority.

2. Priorities for grazing evaluation will be given to allotments with sensitive riparian and listed species.

3. Grazing as it relates to all endangered species will be addressed during this process and will incorporate the latest research and information in the protection of species. Monitoring plots will be installed and read monthly to determine density and presence of Ute ladies'-tresses as well as impacts in this area.

4. If impacts are documented from grazing uses, fences and/or barriers will be established to prevent entry by people or cattle.

5. Water management priority in Deer Creek will be to maintain natural flows and flood events

6. Surveys for *S. diluvialis* will be completed during this next growing season (1999) and results of this survey will be used to determine recreation management actions.

7. If plants are found to be growing in the campground, appropriate actions will be taken to prevent trampling of the plants by visitors to the campground area. These actions may include replanting native vegetation or construction of barriers.

8. Individual campground sites may be closed if necessary to protect these plants in the campground. Barriers will be constructed and restoration work initiated to stabilize the soil and banks in the campground area and provide the best possible habitat for this plant.

9. No expansion that proposes further impact to the riparian area will be considered, as it would increase the potential for impacts to this population.

10. The existing trail in Deer Creek will be relocated out of the riparian area for a length of 1.5 miles below the crossing with the Burr Trail when possible.

11. Barriers will be placed on the creek side of the trail to ensure compliance.

12. Interpretive signs and brochures will be provided along the trail and at the parking area to educate the public about the species and the actions that are being implemented to protect it.

13. Restoration of the current social trail will be initiated, including obliteration of the trail by planting native species, and moving soil to return the area to its natural grade. Group numbers

and allocations may be initiated along this trail if continued monitoring indicates that impacts from visitor use in the area is still causing impacts.

CONCLUSION

This concludes our biological opinion on the impacts of proposed project. This opinion was based upon the information described herein. If new information becomes available, new species listed, or any project change which alters the implementation and operation of the project from that which is described in the biological assessment and which may affect any endangered or threatened species in a manner or to an extent not considered in this biological opinion (see 50 CFR 402.16), formal Section 7 consultation should be re-initiated.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE
LINCOLN PLAZA
145 EAST 1300 SOUTH, SUITE 404
SALT LAKE CITY, UTAH 84115

GRAND STAIRCASE
ESCALANTE
MAY 0 1 1998
NATIONAL MONUMENT
Bureau of Land Management

In Reply Refer To
(CO/KS/NE/UT)

April 30, 1998

A. Jerry Meredith, Monument Manager
Bureau of Land Management
Grand Staircase-Escalante National Monument
337 South Main Street, Suite 010
Cedar City, Utah 84720

Subject: Endangered and Threatened Species Consultation for the Grand Staircase-Escalante National Monument, Garfield and Kane Counties, Utah

Dear Mr. Meredith:

The U.S. Fish and Wildlife Service (Service) received your letter on April 6, 1998 requesting a list of threatened and endangered species which may occur in the area of influence of the subject proposed action. The following species occur in Garfield and/or Kane Counties, and may occur in the subject project's area of influence:

Common Name	**Scientific Name**	**Status**
Bald Eagle	*Haliaeetus leucocephalus*	Threatened
California Condor	*Gymnogyps californicus*	Endangered[1]
Colorado Squawfish	*Ptychocheilus lucius*	Endangered
Jones Cycladenia	*Cycladenia humilis* var. *jonesii*	Threatened
Kodachrome Bladder Pod	*Lesquerella tumulosa*	Endangered
Mexican Spotted Owl	*Strix occidentalis lucida*	Threatened
Peregrine Falcon	*Falco peregrinus*	Endangered
Razorback Sucker	*Xyrauchen texanus*	Endangered
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	Endangered
Ute Ladies'-tresses	*Spiranthes diluvialis*	Threatened

In addition, the Service requests that you survey for Kanab ambersnail (*Oxyloma haydeni kanabensis*) where suitable habitat conditions exist within the Monument. Although this species has not been documented within the boundaries of what is now the Grand Staircase-Escalante National Monument, it may occur there.

[1]Experimental, Nonessential Population

Only a Federal agency can enter into formal Endangered Species Act (ESA) section 7 consultation with the Service. A Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment by giving written notice to the Service of such a designation. The ultimate responsibility for compliance with ESA section 7, however, remains with the Federal agency.

The draft Environmental Impact Statement should be reviewed and a determination made if the proposed alternative may affect any listed species or its critical habitat. A determination also should be made if the proposed alternative is likely to jeopardize a proposed species or result in the destruction or adverse modification of any proposed critical habitat. If the determination is "may affect" for listed species, formal ESA section 7 consultation should be requested by the Federal agency to the Field Supervisor at the address given above. In addition, if a determination is made that the proposed alternative may jeopardize proposed species or result in the destruction or adverse modification of proposed critical habitat, the Federal agency must confer with this office. At that time, the Federal agency should provide this office with a copy of a biological assessment or any other relevant information that was used in reaching its conclusion.

Your attention is also directed to section 7(d) of the ESA, which underscores the requirement that the Federal agency or the applicant shall not make any irreversible or irretrievable commitment of resources during the consultation period which, in effect, would deny the formulation or implementation of reasonable and prudent alternatives regarding their actions on any endangered or threatened species.

The Service looks forward to working with you to further recovery of threatened and endangered species of plants and wildlife found within the Monument. If further assistance is needed, please contact Ted Owens, Wildlife Biologist, of this office at telephone (801) 524-5001.

Sincerely,

for Reed E. Harris
Field Supervisor

Introduction

This appendix is a compilation of the standard procedures for mitigating surface disturbing activities that have been described throughout this Plan. It is designed to provide an understanding of how proposed mitigation in this Plan will apply to specific projects or proposals. These standards are not intended to describe the criteria used to determine whether projects will be approved. Instead, they discuss standard procedures for locating, designing, and stipulating projects where they could be allowed. These standards are general in nature, and do not necessarily cover all concerns or issues that may need to be addressed in specific National Environmental Policy Act (NEPA) documents. Site-specific stipulations will be developed as part of the permitting process for any project authorization or land use/restoration activity.

Project-Level NEPA Documentation and Inventories

All proposed surface disturbing activities will be evaluated using NEPA and associated Bureau of Land Management/Monument Management guidance. This process requires that the project site be surveyed for potential impacts to resources (discussed below) and that an interdisciplinary approach be used to analyze and document such impacts. Monument staff with primary NEPA compliance responsibilities will review the project with managers, and document NEPA compliance prior to initiating or approving any surface disturbance.

The Monument Plan calls for an on-going inventory, assessment, and monitoring process which will continue to identify and document the presence of sensitive resources. The results of these processes will be employed during project-level NEPA documentation.

Major Resources of Concern

This section includes a listing of major resources within the Monument that should be given careful attention through a site inventory at any proposed project or activity site. Site inventories will be conducted by qualified resource specialists for each resource. If such resources are found at a site, actions will be taken as described below for each resource. Additional actions to protect resources may be identified through the NEPA process.

Geology: If geologic hazards or sensitive geomorphologic features (e.g., arches, natural bridges) are identified during site inventories, the project will be moved or modified to prevent conflicts or damage.

Paleontology: Areas found to have unique paleontological resources will be avoided. In other cases where ubiquitous fossils are present, samples may be taken to record their presence and the proposed activity may be allowed. Measures will be taken to minimize impacts on the remaining paleontological resources.

Cultural (Archaeological and Historic) Resources: In the event that archaeologic or historic artifacts are identified during site inventories, the location of the proposed project will be moved to avoid impacts. Where avoidance is not possible, other measures to protect the sensitive resource (e.g., construction of barriers, interpretation) will be used. Efforts to excavate and curate the resource may be taken as a last resort. Consultation with appropriate Native American Indian communities, and/or the State Historic Preservation Officer will be required. Consultation with local communities will also be a priority.

Riparian: Specific restrictions on projects in riparian areas include:

- New recreation facilities will be prohibited in riparian areas, except for small signs for resource protection.
- Trails will be kept out of riparian areas wherever possible. Where this is not possible, or where a trail is necessary to prevent the proliferation of social trails, trails will be designed to minimize impacts by placing them away from streams, using soil stabilization structures to prevent erosion, and planting native plants in areas where vegetation has been removed.
- All other projects will need to avoid riparian areas wherever possible.
- Vegetation restoration treatments will not be allowed in these areas, unless needed for removal of noxious weed species or restoration of disturbed sites.

Soils (including biological soil crusts): If sensitive soil resources are identified, project locations or design will be modified to minimize impacts to sensitive soil crusts.

Fish and Wildlife: If sensitive wildlife or wildlife habitat is identified, the location of the proposed project may be moved or the project modified to reduce impacts. Seasonal closures or restrictions may be required. Non-electrocution standards for raptors on all new and reconstructed powerlines will be required. Standards for protection of special status species (discussed below) will be required.

Vegetation (including hanging gardens and relict plant communities): If sensitive vegetation is identified, sites may be moved to avoid impacts, or project design modified to reduce impacts. Standards for protection of special status plant species (discussed below) will be required. Specific restrictions on projects include:

- No facilities and surface disturbance will be allowed in hanging garden or relict plant areas.
- No vegetation restoration methods will be allowed in hanging gardens or relict plant areas unless needed for noxious weed removal.
- Use of certain types of machinery is prohibited in the Primitive Zone as described in the **Vegetation Restoration Methods** section of Chapter 2.
- Chaining and pushing will only be allowed in limited circumstances after wildfires (not for management ignited fires) as described in the **Vegetation Restoration Methods** section of Chapter 2.

Special Status Animal and Plant Species: In cases where special status species may be affected by a project, the project will be relocated or modified to avoid species or their habitat in consultation with the United States Fish and Wildlife Service (USFWS). Specific restrictions include:

- Surface disturbing projects or activities (such as designated fuelwood cutting areas) will not be allowed in identified special status plant populations.
- Surface disturbing research will generally not be allowed in special status species habitat, except where deemed appropriate in consultation with the USFWS.
- Surface disturbing projects or activities will not be allowed within $^{1}/_{2}$ mile of Mexican spotted owl nests or within 1 mile of peregrine falcon nests unless USFWS consultation shows no impacts will occur.
- Surface disturbing projects or activities will not be allowed in areas of known bald eagle roost sites unless consultation with the USFWS shows no impacts will occur.
- No designated climbing areas will be allowed within known sensitive species nesting areas.
- Use of chemical substances that may affect the Colorado pikeminnow or the razorback sucker downstream may not be used.

Water Resources: Impacts to water resources will be assessed for all projects. Specific restrictions include:

- Water developments can be used as a management tool throughout the Monument for the following purposes: better distribution of livestock when deemed to have an overall beneficial effect on Monument resources, including water sources or riparian areas, or to restore or manage native species or populations.
- Water developments can be done only when a NEPA analysis determines this tool to be the best means of achieving the above objectives and only when the water development would not dewater streams or springs.
- Developments will not be permitted to increase overall livestock numbers.
- Maintenance of existing developments can continue, but may require NEPA analysis and must be consistent with the objectives of this Plan.
- Water may not be diverted out of the Monument except as described in WAT-2 for the town of Henrieville or for other local communities if the applicant demonstrates no effect on Monument resources.
- Water quality protection measures will be required for all projects, including subsequent monitoring.

Air Quality: All specific proposals will be reviewed for compliance with existing laws and policies regarding air quality and will be designed not to degrade existing quality. Specific procedures include:

- Coordinating with the Utah Department of Environmental Quality if an emission permit is required.
- Management ignited fires must comply with the State of Utah Interagency Memorandum of Understanding requirements to minimize air quality impacts from resulting particulates. This procedure requires obtaining an open burning permit from the State prior to conducting a management ignited fire.

Other Considerations

Commercial Filming: Filming activities must comply with zone requirements and Plan provisions. Permits for commercial filming will be required and the preparation of a project-level NEPA document may also be required.

Floodplains: No projects or activities resulting in permanent fills or diversions will be allowed in Federal Emergency Management Agency designated special flood hazard areas.

Monument Facilities Master Plan: All projects, facilities, and signs must be consistent with the Monument Interpretive Plan, the Monument Facilities Master Plan, and the Monument Architectural and Landscape Theme (all in the process of development). The Monument Facilities Master Plan will address compliance and consistency with the Americans with Disabilities Act of 1973, the Rehabilitation Act of 1973, and the Architectural Barriers Act of 1968.

Native Plant Policy: Native plants will be used as a priority for all projects in the Monument. There are limited, emergency situations where it may be necessary to use non-native plants in order to protect Monument resources (i.e., to stabilize soils and displace noxious weeds). This use may be allowed in the following circumstances:

- The use complies with vegetation objectives, Executive Order 11312, and the Standards for Rangeland Health and Guidelines for Grazing Management for BLM Lands in Utah.
- Short-lived species (i.e., nurse crop species) are used in combination with native species to facilitate the ultimate establishment of native species
- Non-natives will not be used to increase forage for livestock or wildlife.
- Monitoring plots must be established to document changes in vegetation structure and composition.

Reseeding After Fires: Each fire will be evaluated on a case-by-case basis to determine the appropriate actions to meet the established vegetation management objectives, including the following considerations:

- Areas that had little diversity and little potential for noxious weed invasions will be seeded exclusively with native species.
- Areas of low diversity and high potential for noxious weed invasion will most likely be seeded, and non-native/native seed mixes may be used if consistent with the non-native plant policy.
- The use of aircraft in reseeding operations may be allowed in areas as appropriate (timing will be evaluated to eliminate conflicts with raptor species).

Restoration/Revegetation: Each project and area must be evaluated to determine appropriate restoration or revegetation strategies. General guidelines include:

- Restoration will be the goal wherever possible.
- Species used in both restoration and revegetation must comply with the non-native plant policy described above.
- Revegetation strategies will be used in areas of heavy visitation, where site stabilization is desired.
- Restoration/revegetation provisions will be included in all surface disturbing projects including provisions for post restoration monitoring of the area. Costs for these activities will be included in the overall cost of the project.
- Priority for restoration and revegetation will be given to projects where Monument resources are being affected.

Rights-of-Way: The following criteria apply to the management of all rights-of way in the Monument where they are allowed:

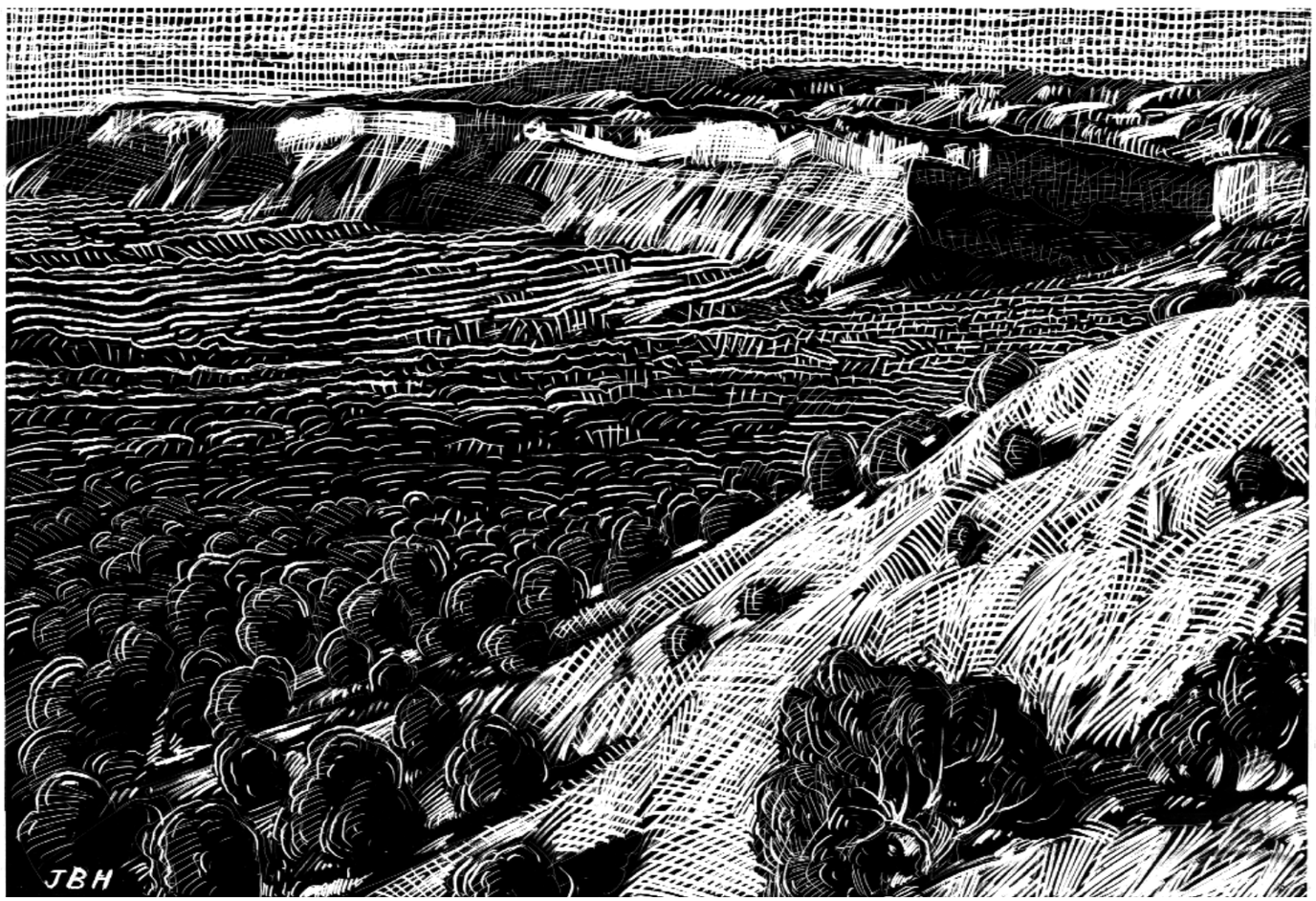
- All new and reconstructed utility lines (including powerlines up to 34.5 kilovolts) will be buried unless: visual quality objectives can be met without burying; geologic conditions make burying infeasible; or burying would produce greater long-term site disturbance.
- All reconstructed and future powerlines must meet non-electrocution standards for raptors. If problems with existing powerlines occur, corrective measures will be taken.
- All new powerlines will be constructed using non-reflective wire. Steel towers will be constructed using galvanized steel. Powerlines will not be high-lined unless no other location exists.
- Strobe lights will not be allowed at any communication site. Other methods will be used to meet aircraft safety requirements.
- Communication site plans will be prepared for all existing and new sites before any new uses or changes in use occur.
- A Monument-wide feasibility study will be prepared to determine the most appropriate location(s) for new communication sites.

- Only one access route to private land parcels will be authorized unless public safety or local ordinances warrant additional routes.
- Private land owners will be required to coordinate the development of access routes across public lands in order to prevent a proliferation of routes.

Route Maintenance: Most routes will be maintained within the existing travel disturbance, except as provided for in the **Transportation and Access** section of Chapter 2. Erosion control structures may be necessary during or after maintenance activities.

Visual Resources: All proposed actions must consider the importance of the visual values and must minimize the impacts the project may have on these values. All projects must be designed to be unobtrusive and follow these procedures:

- The visual resource contrast rating system will be used as a guide to analyze potential visual impacts of all proposed actions. Projects must be designed to mitigate impacts and conform to the assigned Visual Resource Management (VRM) class.
- Natural or natural appearing materials will be used as a priority
- Restoration and revegetation objectives must be met.
- The Monument manager may allow temporary projects, such as research projects, to exceed VRM standards if the project terminates within two years of initiation. Phased mitigation may be required during the project to better conform with prescribed VRM standards.



- Existing facilities will be brought into VRM class conformance to the extent practicable when the need or opportunity arises, such as during reconstruction.

Wild and Scenic Rivers: All proposed actions must be evaluated to determine potential impacts on outstandingly remarkable values for river segments recommended as suitable. Projects will be relocated or modified to avoid impacts to identified outstandingly remarkable values.

Wilderness Concerns (including Wilderness Study Areas (WSAs) and areas with Wilderness Character): Existing WSAs will be managed under the BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review.

Areas that were found to have wilderness characteristics during the BLM's 1999 reinventory will not be managed as WSAs, unless designated as WSAs under the Section 202 Planning Process. In the meantime, the BLM will continue to give careful consideration before acting affirmatively on any proposals for activities within these areas. In NEPA processes, BLM will continue to evaluate the potential for harm to wilderness characteristics, and proposed actions may be modified or the "no action" alternative will be considered if actions were deemed to have the potential to negate the areas's eligibility for wilderness designation by Congress.

Weeds: Control of noxious weeds is a priority in order to achieve the overall vegetation management objectives. Implications for weed management must be considered in all projects. Specific considerations include:

- Chemical treatment methods will generally be restricted to control of noxious weed species. BLM employees or contractors with appropriate certification will be responsible for use of chemicals and will take precautions to prevent possible effects to non-target plant species. Use of such chemicals will not be allowed near special status plant populations.
- Biological control methods will be used only for the control of noxious or exotic weed species.
- Aerial chemical applications may only be used in limited circumstances where: accessibility is so restricted that no other alternative means is available; it can be demonstrated that non-target sensitive species or other Monument resources will not be detrimentally affected; and noxious weeds are presenting a significant threat to Monument resources.
- All hay used on BLM lands must be certified weed free.
- All machinery that has been used outside of the Monument must be cleaned prior to use within the Monument.
- All projects will contain restoration/revegetation protocols to minimize re-colonization of treated areas by noxious weed species.

Introduction

The following policies, practices, and procedures will be implemented in order to ensure that Bureau of Land Management (BLM) lands are healthy. The concept of healthy rangelands expresses the BLM's desire to maintain or improve productivity of plant, animal (including livestock), soil, and water resources at a level consistent with the ecosystem's capability.

In order to meet society's needs and expectations for sustained production and conservation of natural resources from BLM rangelands, use of these lands must be kept in balance with the land's ability to sustain those uses. Identifying that balance requires an understanding and application of ecological principles that determine how living and non-living components of rangelands interact. Recognition of the inter-dependence of soil, water, plants, and animals (including livestock) is basic to maintaining healthy rangelands and is the key element in BLM's proposed Standards and Guidelines.

The policies, practices, and procedures contained in this document are referred to as Standards and Guidelines. Standards and Guidelines will apply to all uses of BLM land for forage, including livestock, wildlife, wild horses, and burros.

Standards describe desired ecological conditions that the BLM intends to attain in managing BLM lands, whereas Guidelines define practices and procedures that will be applied to achieve Standards. While Standards will initially be applied to grazing, it is the BLM's intent to eventually apply these Standards to all rangeland uses that have the ability to affect or be affected by the ecological characteristics of rangelands.

Fundamentals of Rangeland Health

The BLM has defined four Fundamentals of Rangeland Health, which are the basic ecological principles underlying sustainable production of rangeland resources. These Fundamentals are embodied in the BLM's new Grazing Regulations (43 CFR, Part 4100), which became effective in August of 1995. These four Fundamentals of Rangeland Health, which also serve as the basis for Standards and Guidelines for Grazing Management, are as follows:

1. Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian/wetland, and aquatic components; soil and plant conditions support water infiltration, soil moisture storage, and release of water that are in balance with climate and landform, and maintain or improve water quality, water quantity, and timing and duration of flow.

2. Ecological processes, including the hydrologic cycle, nutrient cycles, and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

3. Water quality complies with state water quality standards and achieves, or is making progress toward achieving, established BLM management objectives, such as meeting wildlife needs.

4. Habitats are, or are making significant progress towards being, restored or maintained for Federal threatened and endangered species, Federal proposed, Federal candidate, other special status species, native species, and for economically valuable game species and livestock.

By developing Standards and Guidelines based on the Fundamentals listed above, and by applying those Standards and Guidelines to BLM land management, it is the BLM's intent to achieve the following:

1. Promote healthy, sustainable rangeland ecosystems that produce a wide range of public values such as wildlife habitat, livestock forage, recreation opportunities, wild horse and burro habitat, clean water, clean air, etc.

2. Accelerate restoration and improvement of public rangelands to properly functioning condition, where appropriate.

3. Provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy rangelands.

4. Ensure that BLM land users and stakeholders have a meaningful voice in establishing policy and managing BLM rangelands.

Standards and Guidelines

Standards are descriptions of the desired condition of the biological and physical components and characteristics of rangelands. Standards:

- are measurable and attainable;
- comply with various Federal and state statutes, policies, and directives applicable to BLM rangelands; and
- establish goals for resource condition and parameters for management decisions.

Indicators are features of an ecosystem that can be measured or observed in order to gain an understanding of the relative condition of a particular landscape or portion of a landscape. Indicators will be used by the rangeland manager to determine if Standards are being met. The indicators proposed for use are commonly accepted and used by members of the rangeland management profession in monitoring rangelands. Methods and techniques for evaluating these indicators are also commonly available. In using these terms, it should be recognized that not every indicator applies equally to every acre of land or to every ecological site. Additional indicators not listed below may need to be developed for some rangelands depending upon local conditions.

Similarly, because of natural variability, extreme degradation, or unusual management objectives, discretion will be used in applying Standards. Judgements about whether a site is meeting or failing to meet a Standard must be tempered by a knowledge of the site's potential. Examples of this are thousands of acres of the Great Basin in western Utah where native perennial grass species' have been replaced by cheatgrass, an annual exotic species. It will be difficult and expensive to return all those areas to their natural potential because they have been greatly altered. It may not even be feasible to restore such areas from such an altered state to a state similar to "natural" conditions.

Site potential is determined by soil, geology, geomorphology, climate, and landform. Standards must be applied with an understanding of the potential of the particular site in question, as different sites have differing potentials.

Guidelines are management approaches, methods, and practices that are intended to achieve a Standard. Guidelines:

- typically identify and prescribe methods of influencing or controlling specific public land uses;
- are developed and applied consistent with the desired condition and within site capability; and
- may be adjusted over time.

It should be understood that these Standards and Guidelines are to be applied in making specific grazing management decisions. However, it should also be understood that they are considered the minimum conditions to be achieved. Flexibility must be used in applying these policy statements because ecosystem components vary from place to place and ecological interactions may be different.

Standards and Guidelines for use on BLM Land in Utah are described in the following pages. Standards and Guidelines, once approved by the Secretary of the Interior, will be implemented through subsequent Resource Management Plans (RMPs) and other decisions by BLM officials involving matters related to management of grazing. Where applicable, the statewide Guidelines may be adopted as terms and conditions for grazing permits and leases. Additional Guidelines may be identified and implemented through subsequent RMPs and activity plans to address local situations not dealt with by the statewide Guidelines.

Standards for Rangeland Health

Standard 1. Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform. This is indicated by:

a. Sufficient cover and litter to protect the soil surface from excessive water and wind erosion, promote infiltration, detain surface flow, and retard soil moisture loss by evaporation;
b. The absence of indicators of excessive erosion such as rills, soil pedestals, and actively eroding gullies; and
c. The appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the Desired Plant Community (DPC), where identified in a land use plan conforming to these Standards, or (2) where the DPC is not identified, a community that equally sustains the desired level of productivity and properly functioning ecological processes.

Standard 2. Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate and landform. This is indicated by:

a. Streambank vegetation consisting of, or showing a trend toward, species with root masses capable of withstanding high streamflow events, vegetative cover adequate to protect stream banks and dissipate streamflow energy associated with high-water flows, protect against accelerated erosion, capture sediment, and provide for groundwater recharge;
b. Vegetation reflecting: DPC, maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition, high vigor, large woody debris when site potential allows, and providing food, cover, and other habitat needs for dependent animal species;
c. Re-vegetating point bars, lateral stream movement associated with natural sinuosity, channel width, depth, pool frequency, and roughness appropriate to landscape position; and
d. Active floodplain.

Standard 3. Desired species, including native, threatened, endangered, and special-status species, are maintained at a level appropriate for the site and species involved. This is indicated by:

a. Frequency, diversity, density, age classes, and productivity of desired native species necessary to ensure reproductive capability and survival;
b. Habitats connected at a level to enhance species survival;
c. Native species re-occupy habitat niches and voids caused by disturbances unless management objectives call for or maintenance of non-native species;
d. Habitats for threatened, endangered, and special-status species managed to provide for recovery and move species toward de-listing; and
e. Appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the DPC, where identified in a land use plan conforming to these Standards, or (2) where the DPC is not identified, a community that equally sustains the desired level of productivity and properly functioning ecological processes.

Standard 4. The BLM will apply and comply with water quality standards established by the State of Utah (R.317-2) and the Federal Clean Water and Safe Drinking Water Acts. Activities on BLM lands will fully support the designated beneficial uses described in the Utah Water Quality Standards (R.317-2) for Surface and Groundwater. This is indicated by:

a. Measurement of nutrient loads, total dissolved solids, chemical constituents, fecal coliform, water temperature and other water quality parameters; and
b. Macro invertebrate communities that indicate water quality meets aquatic objectives.

Guidelines for Grazing Management

1. Grazing management practices will be implemented which:
   a. Maintain sufficient residual vegetation and litter on both upland and riparian sites to protect the soil from wind and water erosion and support ecological functions;
   b. Promote attainment or maintenance of proper functioning condition riparian/wetland areas, appropriate stream channel morphology, desired soil permeability and infiltration, and appropriate soil conditions and kinds and amounts of plants and animals to support the hydrologic cycle, nutrient cycle and energy flow;
   c. Meet the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants to the extent natural conditions allow;
   d. Maintain viable and diverse populations of plants and animals appropriate for the site;
   e. Provide or improve, within the limits of site potentials, habitat for threatened or endangered species;
   f. Avoid grazing management conflicts with other species that have the potential of becoming protected or special status species;
   g. Encourage innovation, experimentation and the ultimate development of alternatives to improve rangeland management practices; and
   h. Give priority to rangeland improvement projects and land treatments that offer the best opportunity for achieving the Standards.

2. Any spring and seep developments will be designed and constructed to protect ecological process and functions and improve livestock, wild horse, and wildlife distribution.

3. New rangeland projects for grazing will be constructed in a manner consistent with the Standards. Considering economic circumstances and site limitations, existing rangeland projects and facilities that conflict with the achievement or maintenance of the Standards will be relocated and/or modified.

4. Livestock salt blocks and other nutritional supplements will be located away from riparian/wetland areas, other permanently located, or other natural water sources. It is recommended that the locations of these supplements be moved every year.

5. The use and perpetuation of native species will be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands, non-intrusive, non-native plant species are appropriate for use where native species (a) are not available, (b) are not economically feasible, (c) cannot achieve ecological objectives as well as non-native species, and/or (d) cannot compete with already established non-native species.

6. When rangeland manipulations are necessary, the best management practices, including biological processes, fire, and intensive grazing will be utilized prior to the use of chemical or mechanical manipulations.

7. When establishing grazing practices and rangeland improvements, the quality of the outdoor recreation experience is to be considered. Aesthetic and scenic values, water, campsites, and opportunities for solitude are among those considerations.

8. Feeding of hay and other harvested forage (which does not refer to miscellaneous salt, protein, and other supplements), for the purpose of substituting inadequate natural forage, will not be conducted on BLM lands other than in (a) emergency situations where no other resource exists and animal survival is in jeopardy, or (b) situations where the Authorized Officer determines such a practice will assist in meeting a Standard or attaining a management objective.

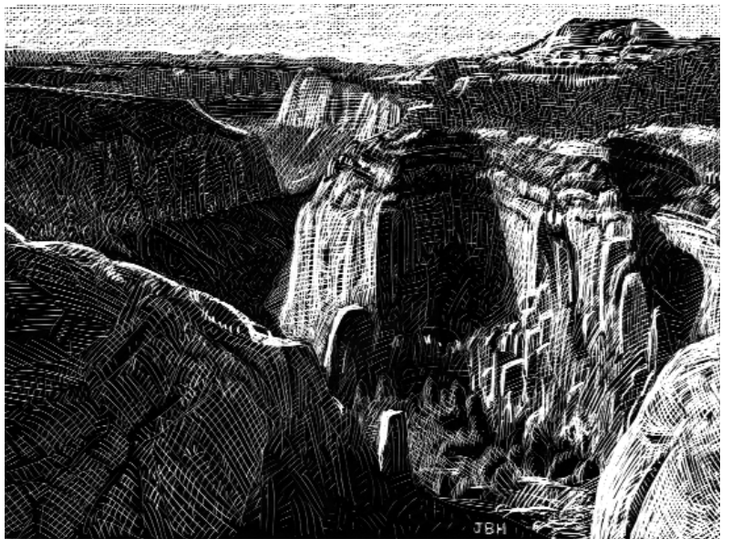
9. In order to eliminate, minimize, or limit the spread of noxious weeds, (a) only hay cubes, hay pellets, or certified weed-free hay will be fed on BLM lands, and (b) reasonable adjustments in grazing methods, methods of transport, and animal husbandry practices will be applied.

10. To avoid contamination of water sources and inadvertent damage to non-target species, aerial application of pesticides will not be allowed within 100 feet of a riparian/wetland area unless the product is registered for such use with the Environmental Protection Agency.

11. On rangelands where a Standard is not being met, and conditions are moving toward meeting the Standard, grazing may be allowed to continue. On lands where a Standard is not being met, conditions are not improving toward meeting the Standard or other management objectives, and livestock grazing is deemed responsible, administrative action with regard to livestock will be taken by the Authorized Officer pursuant to CFR 4180.2(c).

12. Where it can be determined that more than one kind of grazing animal is responsible for failure to achieve a Standard, and adjustments in management are required, those adjustments will be made to each kind of animal, based on interagency cooperation as needed, in proportion to their degree of responsibility.

13. Rangelands that have been burned, reseeded, or otherwise treated to alter vegetative composition will be closed to livestock grazing as follows: (a) burned rangelands, whether by wildfire or prescribed burning, will be ungrazed for a minimum



of one complete growing season following the burn; (b) rangelands that have been reseeded or otherwise chemically or mechanically treated will be ungrazed for a minimum of two complete growing seasons following treatment.

14. Conversions in kind of livestock (such as from sheep to cattle) will be analyzed in light of Rangeland Health Standards. Where such conversions are not adverse to achieving a Standard, or they are not in conflict with land BLM use plans, the conversion will be allowed.

Monitoring and Assessment

The determination of whether or not a particular grazing unit, pasture or allotment is meeting a Standard will be made by the Authorized Officer based on rangeland assessments and monitoring. Monitoring the indicators will be in the form of recorded data from study sites or transects. It may be supplemented by visual observations and other data by BLM or other agency personnel, ranchers, interested public, wildlife agency personnel, or other resource data.

Assessments are the interpretation of data, observations, and related research findings. Assessments are the usual basis for prescribing grazing adjustments or practices. In some cases, such as with threatened or endangered species, Section 7 consultation with the U. S. Fish and Wildlife Service under the Endangered Species Act will occur. In all cases, conformance with Standards and Guidelines is a local decision based on local circumstances involving a collaborative process with affected interests

Should an assessment determine that an allotment is not meeting a Standard and/or significant progress toward meeting a Standard is not occurring, the next step is to determine the cause of failing to meet the Standard. If that determination reveals that grazing is involved or partially responsible, the Authorized Officer, with involvement of the interested parties, will prescribe actions that ensure progress toward meeting the Standard. Those actions may be a part of an activity plan, a coordinated management plan, or an administrative decision. Corrective management actions will be based on actual on-the-ground data and conditions.

(Standards for Rangeland Health and Guidelines for Grazing Management for BLM Lands in Utah, USDI, BLM, May 1997)

Introduction

This Plan makes Wild and Scenic River (WSR) suitability recommendations as required by section 5(d)(1) of the WSR Act. WSR designations can be made only by Congress, or the Secretary of the Interior upon application of a State Governor. As described in the Draft Management Plan/Draft Environmental Impact Statement (DEIS), representatives from Grand Staircase-Escalante National Monument (GSENM), Bryce Canyon National Park, Glen Canyon National Recreation Area, and Dixie National Forest worked together to discuss suitability recommendations made in this document. Land managers responsible for managing the various segments came to consensus on segments which overlapped jurisdictions. They also made decisions for segments that were under their own jurisdictions. Those segments lying within GSENM, as well as Bureau of Land Management (BLM) river segments found eligible between the Monument boundary and the Arizona State line, are assessed in this report. Glen Canyon National Recreation Area, Dixie National Forest, and Bryce Canyon National Park are currently working on suitability assessments for the segments within their jurisdictions.

Input was given by Kane County Water Conservancy District, the office of the Governor of Utah, the Utah Division of Natural Resources, and the Utah Division of Water Resources, pursuant to the statewide Memorandum of Understanding (MOU) described in the DEIS. All meetings held in regards to the MOU were open and announced to the public.

The suitability assessment is divided into two parts for GSENM. The first part assesses the Escalante River system, which includes the main stem of the Escalante River and many of its tributaries. The second part assesses the Paria River system and several of its tributaries. Tables at the end of this Appendix summarize the information presented in the text for each of the suitable segments.

Escalante River System

The Escalante River System begins on the Aquarius Plateau. The river system extends from the top of Boulder Mountain south into the Colorado River (Lake Powell). The river system lies within the Colorado Plateau Physiographic Province, Canyonlands, and Southern High Plateaus subprovinces. Dominant vegetation zones change with elevation and precipitation levels. Headwaters begin in the Montane Zone, which contains forests of ponderosa pine, Douglas fir, Engelmann spruce, and blue spruce. The Piñon and Juniper Zone follows, blending eventually with the Sagebrush Zone, and ending in the lower Shadscale Zone. It flows through the Plateau Uplands water province and is in the Escalante River Drainage Basin.

Although the main stem of the Escalante begins northwest of the town of Escalante, most of the flow comes from its side tributaries such as Boulder Creek, Pine Creek, Death Hollow, Sand Creek, The Gulch, and Calf Creek. These tributaries are located downstream from the town of Escalante. Boulder Creek and Deer Creek flow through or near the town of Boulder.

The headwaters of the Escalante River are composed of several tributaries in the Escalante Ranger District of Dixie National Forest. From there, the river flows through the BLM-managed GSENM, and then enters Glen Canyon National Recreation Area. It ends at Coyote Gulch, near Lake Powell. This suitability assessment covers that portion of the river and its major tributaries within the boundaries of GSENM.

The Escalante River was first identified by the Departments of the Interior and Agriculture as a candidate "inventory" river to be studied as a possible addition to the National Wild and Scenic River System on September 11, 1970. It was later identified as part of the Nationwide Rivers Inventory by the National Park Service.

As prescribed in the WSR Act and by BLM policy, the area included in this evaluation is the river area and its adjoining tributaries within the river corridor. Generally, the corridor width cannot exceed an average of 320 acres per mile, which is usually measured approximately $^1/_4$ mile from the mean high-water mark on both sides of the channel. Corridor boundaries for Federally designated and administered WSRs may vary based on a number of conditions, but are usually delineated by legally identifiable lines (survey or property lines). They may also be identified by some form of on-the-ground physical features (i.e., topography, natural or man-made features such as canyon rims, roads, etc.), which provide the basis for protecting the river's identified values and practicality in managing those values.

Suitability Recommendations

About 140 miles are recommended suitable for inclusion in the National Wild and Scenic Rivers System (NWSRS). The suitable

river segments include: Escalante River 1, 2, 3; Harris Wash; Lower Boulder Creek; Slickrock Canyon; Lower Deer Creek 1, 2; The Gulch 1, 2, 3; Steep Creek; Lower Sand Creek and tributary Willow Patch Creek; Mamie Creek and west tributary; Death Hollow Creek; Calf Creek 1, 2, 3; Twenty-five Mile Wash (refer to Table A4.1).

The following segments are recommended as non-suitable and are released from further WSR consideration: the upper part of Harris Wash, Dry Hollow Creek, Cottonwood Canyon, Blackwater Canyon, Lamanite Arch Canyon,
Water Canyon, west fork of Steep Creek, Lower Horse Canyon, Wolverine Creek, Little Death Hollow, unnamed tributary west of Calf Creek, Phipps Wash and tributaries, and the upper part of Twenty-five Mile Wash and north tributary.

Cottonwood Canyon, Wolverine Creek, Little Death Hollow, Phipps Wash, Cottonwood Creek, parts of Harris Wash, side canyons into the Gulch, Water Canyon, Blackwater Canyon, Lamanite Arch Canyon, Dry Hollow Creek, and the unnamed tributary west of Calf Creek were determined non-suitable because the quality of river characteristics in these segments will not significantly enhance nor contribute to the NWSRS. Nevertheless, these rivers will be managed for their values under the Proclamation and this Plan.

Lower Horse Canyon, while eligible, was determined to be non-suitable because of management conflicts (one of the suitability criteria identified in BLM Manual Section 8351). An existing water diversion in that segment of the river could be used in the future to remove livestock grazing from the riparian area, which would conflict with WSR status.

Characteristics Which do or do not Make the Area a Worthy Addition to the NWSRS

The segments identified in this report are on the Colorado Plateau Physiographic Province, Canyonlands and High Plateaus subprovinces. Currently, there are no designated components of the NWSRS within this province. The Escalante River and Calf Creek Falls were specifically listed as objects of historic or scientific interest when the Monument was designated.

Those segments of the Escalante River System recommended as suitable are worthy additions to the NWSRS based on the following outstandingly remarkable values:

- **Scenic:** Throughout the spectacular Escalante River system, rugged canyons, colorful outcroppings, and imposing cliff faces provide unique opportunities for sightseeing and photography. The river has carved a sheer-walled canyon that reaches depths of 1,100 feet.

- **Recreational:** The Escalante River and major tributaries provide outstanding opportunities for hiking, backpacking, boating, visiting cultural sites, photography and nature viewing. The canyons and colorful sandstone outcroppings, known as slickrock, attract visitors from throughout the United States and other countries. Water sources are plentiful in the Escalante Canyons, allowing easier travel. Canyons with similar geology are difficult to experience in other parts of the Colorado Plateau due to lack of water.

- **Geological:** Colorful canyon walls composed of layers of sandstone, siltstone, and limestone record the geologic past, including extensive sand dunes, invasions by seaways, and deposits made by broad river systems. Tens of thousands of years of weathering and erosion have resulted in the formation of numerous natural bridges and arches throughout the river corridor area. The canyons vary in width from a mile to only inches wide. These narrow canyons are commonly called slot canyons and number in the hundreds in this river system. Although these features are common to the Colorado Plateau, the number and variety of natural bridges, arches, and slot canyons make this area distinctive and exceptional.

- **Riparian:** The river segments provide unique riparian corridors through an otherwise arid region. A variety of wildlife species, both aquatic and terrestrial, rely upon the river for habitat. The riparian area contains occupied or suitable habitat for numerous sensitive or special status animal and plant species. The Escalante River System is home to 8 amphibian species, 190 bird species, 54 mammal species, 20 fish species, and 20 reptile species. Among these are the threatened and endangered southwestern willow flycatcher, Mexican spotted owl, and wintering bald eagles.

- **Historic:** The Escalante River system has provided water for humans in a relatively arid environment for at least 10,000 years. Prehistoric Native American Indian sites are prolific throughout the system. It continues to provide water for humans today.

Other values that support the addition of portions of the Escalante River system to the NWSRS are significant paleontological values, including fossil trackways and petrified wood that would be enhanced and protected by designation.

The Escalante River, Boulder Creek, Deer Creek, Sand Creek, Twenty-five Mile Wash, Calf Creek, The Gulch, Steep Creek, Coyote Gulch, Harris Wash, Mamie Creek and Death Hollow were also included in *A Citizen's Proposal to Protect the Wild Rivers of Utah*.

Current Uses and Land Ownership Concerns

- **Energy and Minerals:** There are 2 oil and gas leases within the study area near the confluence of Phipps Wash and the Escalante River (at T35S, R5E, S18), and an active lease on a small portion of Mamie Creek. There are no mining claims, mineral sites, or coal leases in the river area.

- **Water Resource Developments, Water Rights, and Instream Flow:** Existing water developments and rights held on the river area are associated with livestock, agricultural and domestic use. Ninety-nine surface, 6 underground, and 8 spring water rights within 1 mile of each stream course in the Monument are on record with the State of Utah. Of these, the BLM holds the rights to 40 surface, 0 underground, and 4 springs. The Utah Division of Water Rights reports a total of 1.55 cfs surface diversions in the Escalante River, Calf Creek, Lower Deer Creek, and The Gulch. Most of the surface diversions are located on private land or on segments classified as Recreational. WSR designation would not affect these existing water rights as they are senior to any rights acquired through designation.

  There is some concern from local water conservancy districts and potential users over the possible effects designation could have on proposed or potential projects. These concerns should be addressed by Congress upon WSR designation. No action taken in this Plan or any WSR recommendation can establish an appropriation or Federal reserved water right. Only Congress, passing legislation designating a WSR may establish a Federal reserved water right. If Congress creates a reserved right, the BLM or the State of Utah may establish instream flows necessary to meet the purposes of the designation. Such a reserved right would, by law, be established with the priority date of the designation and would be junior to all preexisting water rights in accordance with the existing State priority system.

- **Forestry, Agriculture, and Livestock Grazing:** There are no forested lands within the study area. Agriculture in the form of irrigated farmlands occurs near the communities of Escalante and Boulder. These areas of agricultural use are not within the study area. However, farming has an impact on the river study area. On private land, water is diverted out of the channels to irrigate the farmland and the runoff returns to the river bed. When this water returns, it can carry residues of agricultural chemicals, nutrients, and salts.

  Livestock grazing is permitted on public lands throughout the river area. There are 13 allotments in the study area. Grazing along the river and on the uplands is primarily a fall/winter/spring operation. The rivers provide a significant source of water in this area for livestock. Grazing will continue to be governed by applicable laws and regulations.

  Several fences cross the rivers within their corridors. These include allotment boundary fences, pasture fences, and State section line fences. If not removed after use, these wire fences typically wash out or are taken up during high flows but are rebuilt each year as flows recede or grazing operations start up for the season. Although some landowners and ranchers expressed concerns that they would not be able to maintain these fences with designation, neither the WSR recommendations made in this Plan nor designation by Congress would affect the ability of landowners or ranchers to maintain fences.

- **Recreation Use and Facilities:** The Escalante River and major tributaries provide outstanding opportunities for recreational activities. These include hiking (canyoneering), backpacking, bird-watching, photography, viewing cultural sites, camping, and nature study. Recreational use is estimated to be 29,300 visits per year (based on 1997 RMIS data). Developed or semi-developed trailheads and trails are located at Calf Creek Lower and Upper Falls, Deer Creek, Escalante River outside of the town of Escalante, Highway 12, Harris Wash, and The Gulch.

  The BLM operates Calf Creek Campground along Calf Creek, and Deer Creek Campground along Deer Creek. These sites

received a total of 30,210 visits in FY 1997. Access to Calf Creek Falls, Deer Creek, and other river-based activities is available at these sites.

- **Transportation/Utility Facilities:** Utah State Route 12 travels over the Escalante at the dividing point between segments 1 and 2. Along tributaries, dirt roads approach the water's edge and in some places, ford the river bed. An overhead utility line crosses the river near State Route 12. Another line crosses Lower Sand Creek near its northern end. WSR designation would not affect the ability to maintain these lines.

- **Private and Commercial Development:** Protective management for suitable segments only applies to BLM managed lands. Private and commercial development is not affected by for river management on public lands.

Resources and Uses That Would be Enhanced or Curtailed by Designation

This section describes resources and uses that could be affected by designation of a Wild and Scenic River. As mentioned above WSR designations can be made only by Congress, or the Secretary of the Interior upon application of a State Governor.

- **Scenic:** Deep, narrow canyons, colorful rock walls, numerous interesting geologic features, and waterfalls provide exceptional opportunities for sightseeing and photography. During a BLM visual resources inventory, the river corridors were determined to have scenic quality A. This indicates that scenic qualities of the landforms, vegetation, and waterform are extremely high, with great variety and distinction.

- **Recreational:** The Escalante River and major tributaries provide outstanding opportunities for hiking, backpacking, photography, and nature viewing. The canyons and colorful sandstone outcrops, known as slickrock, attract visitors from throughout the United States and other countries. Canyons of the Escalante and its tributaries are well known for canyoneering (seeking out and hiking narrow slot canyons).

- **Geological:** The Colorado Plateau is a region of generally horizontal geologic strata where plateaus and mesas are separated by deep canyons. The meandering Escalante River has become deeply incised or entrenched into the Jurassic Navajo Sandstone in some places. Small side canyons within the 1/4 mile boundary to segments such as Little Death Hollow or the Escalante River are called slot canyons. Colorful canyon walls composed of layers of sandstone, siltstone, and limestone record times in the geologic past of extensive sand dunes, invasions by seaways, and deposits made by broad river systems. Tens of thousands of years of weathering and erosion have resulted in the forming of natural bridges and arches, water carved alcoves, rincons, and oxbows throughout the river area.

- **Wildlife and Riparian Habitat:** The river and tributaries provide riparian corridors through an otherwise semi-arid region that support a wide variety of wildlife. As typical of wetland areas, the diversity of plants and animals around the washes and streams is greater than in the surrounding uplands. Various animal species rely upon the outstandingly remarkable riparian and habitat values of the river area for food, water and other requirements. The Escalante river supports a variety of fish species. Special status animal species include bald eagles, southwestern willow flycatcher, and the Mexican spotted owl. The riparian area is potential habitat for spotted bat, Townsend's big-eared bat, and golden eagle. Canyons of the Escalante could provide habitat for the recently reintroduced California condor. Other wildlife include bighorn sheep, mule deer, raccoons, bats, reptiles, amphibians, waterfowl, raptors, neotropical species, and other birds.

- **Vegetative Composition Varies Depending on the Zone:** Riparian communities associated with the river are composed largely of tamarisk stands with narrow corridors of native willows, ash, bulrushes, cattails, and cottonwoods. Mature cottonwood and willow galleries occur along the Escalante, and at scattered springs in tributaries. Stretches that receive disruptive, scouring floods on a regular basis may remain in a disclimax successional stage. Other vegetation includes rushes, sedges, and a variety of grasses and forbs. Algal mats are found in some quiet pools. Upland vegetation is described as a mixture of desert shrub, sagebrush, piñon and juniper, grasslands, mountain shrub, and coniferous woodlands. The distribution of these associations is determined largely by elevation and precipitation.

- **Cultural (Historic and Prehistoric) Resources:** There is evidence to suggest that cultural properties and features

representing the entire time span of human occupation of the region are present along or immediately adjacent to the study area. This should not be surprising since water is necessary to all human activity. The probable span of use of the riverine habitat began about 11,000 years ago. Numerous prehistoric sites can be attributed to several Native American Indian cultures: Anasazi and Fremont, Hopi, Zuni, Paiute, and possibly Navajo. The riverine system continues to be important to modern societies. Cultural properties likely to be encountered along the river could include rock art sites, agricultural features, storage cists, rock shelters, habitations, artifact scatters, and pioneer-era homesteads, ranches, and travel routes. These cultural properties exhibit a challenge in balancing conservation and utilization, but also offer great opportunities for scientific study, education, and interpretation.

- **Wilderness Study Areas:** Eighty-two percent of the Escalante River and major tributaries run through Wilderness Study Areas (WSA) or Instant Study Areas (ISA). The river and/or tributaries flow through Phipps-Death Hollow ISA Complex, North Escalante Canyons/The Gulch ISA Complex, Escalante Canyons Tract 5 ISA Complex, Steep Creek WSA, and Scorpion WSA. There are no designated wilderness areas in the study area.

- **Streamflow and Water Quality**: The Escalante River and tributaries meet the definition of free-flowing. A mean flow of 11.4 cfs is recorded at the USGS gauging station located at the Escalante River/Pine Creek confluence and 22.5 cfs are recorded in Boulder Creek above the Escalante River. Data was collected from 1950-1955 which showed a mean flow of 82.2 cfs at the mouth. High flows typically occur during the spring runoff period and as a result of summer thundershowers. Scouring of the river beds as a result of high flows can affect channel morphology and riparian ecosystems.

  Utah Division of Water Quality has classified the Escalante River and tributaries from Lake Powell to the confluence with Boulder Creek as 2B–protected for secondary contact recreation (boating, wading), and 3C–protected for non-game fish and other aquatic life. The Escalante River and tributaries from the confluence of Boulder Creek to the headwaters and Deer Creek and tributaries, from the confluence with Boulder Creek to headwaters are classified as 2B–protected for secondary contact recreation (boating, wading), 3A–protected for cold water fish and other cold-water aquatic life, and 4–protected for agricultural use.

  The Utah Division of Water Quality defines anti-degradation segments as high quality waters with exceptional recreational or ecological significance or waters that require protection and are to be maintained at their existing quality. New point sources are prohibited and non-point sources shall be controlled to the extent feasible through best management practices. Calf Creek, Sand Creek, Mamie Creek, and Deer Creek are anti-degradation stream segments.

Designation would not significantly restrict, foreclose, or curtail any activities currently occurring or proposed within the Escalante River System.

Federal, Public, State, Tribal, Local, or Other Interests

Garfield County was primarily concerned about the effect that WSR designation would have on their proposal for Wide Hollow reservoir, which is located above the suitable WSR segments. The existing reservoir currently holds about 1,100 acre feet although it originally held 2,400 acre feet when it was built in 1956. The county is proposing a new location for the reservoir because the existing location has filled with sediments. The proposed reservoir will be located on BLM land outside of the Monument boundary. Subsequent environmental analysis will be required on any specific reservoir proposal to determine the potential impacts, including impacts on Monument resources and outstandingly remarkable values for segments recommended as suitable downstream.

Garfield County is also concerned that the segments immediately downstream from Hole-in-the-Rock Road would curtail the ability to improve that road. Since the upper part of Harris Wash, which is the only segment immediately adjacent to the road, is considered non-suitable for this Plan, there should be no effect on the maintenance of the Hole-in-the-Rock Road.

Another concern expressed by Garfield County was for private landowners. It was suggested that the BLM exclude river segments on private land from being suitable. Private

landowners have 0.9 acres along the Escalante River upstream and downstream of the Highway 12 bridge and 1.7 miles along Deer Creek upstream of the Burr Trail. Under the WSR Act, designation neither gives nor implies government control of private lands within the river corridor. Although Congress (or the Secretary of the Interior upon request of the Governor for 2(a)(ii) rivers) could include private lands within the boundaries of the designated river area, management restrictions would not apply.

Escalante and Boulder are the only communities within the river area. It is anticipated that these communities would be most affected by possible designation of the river. Much of the economy of Escalante is dependant on agriculture and the scarce water supplies available. The viability of Escalante is dependant of the continuation of existing water diversions (Franson and Noble). These diversions are upstream from the river study area.

Native American Indian tribes are concerned about rock art in the canyons. WSR designation may contribute to the protection of the rock art and surrounding area.

Ability to Manage

The Escalante River system is considered to be manageable based on the current level and type of activities taking place, and adequate staff and funding would be available to carry out management of a designated WSR. The free-flowing character and outstandingly remarkable values identified in the determination of eligibility can be protected through management actions. If the river segments are designated, a management plan will be developed within three years pursuant to the WSR Act. This will be done in order to determine management objectives and a strategy for long-term protection of the river's outstandingly remarkable values to the full extent of the WSR Act.

All river segments are within GSENM. Almost half of the river mileage is in Outstanding Natural Areas (ONA) which became ISAs in the wilderness study process. Such administrative designations will complement WSR designation and provide specific authority and guidance for the BLM to protect and manage the rivers.

Historical or Existing Rights That Could be Adversely Affected by Designation

No impact on existing or historical rights would occur as a result of designation. Section 13 (b) of the Act states that jurisdiction over waters is determined by established principles of law. Existing, valid water rights are not affected by designation.

Alterations to existing irrigation or water withdrawal facilities may be approved under Section 7 of the Act as long as there is no direct adverse effect to the values for which the river was designated. The valid and existing rights of present land owners to use water and shorelines are not affected.

Estimated Cost

No additional easements or land acquisitions are anticipated as a result of NWSRS designation. Section 6(b) of the National WSR Act specifically prohibits the use of condemnation for fee title purchase of lands if 50 percent or more of the acreage within the river area boundary is in public ownership (Federal, state or local government). This is the case with both the Escalante and Paria River Systems. It is estimated that an additional $70,000 or 1 FTE would be needed to develop, implement, and maintain actions identified in the river plans for the Escalante and Paria River systems.

Paria River System

The Paria River System begins on the Paunsaugunt Plateau near Bryce Canyon. The river system flows through the White Cliffs and the Vermilion Cliffs, and carves its way through the Paria Canyon/Vermilion Cliffs Wilderness Area to the Colorado River. The Paria River and tributaries are in the Colorado Plateau Physiographic Province and in the Canyonlands and High Plateaus sub-provinces. Dominant vegetation zones change with elevation and precipitation levels. These zones start in lower elevations with shadscale, then blend with sagebrush, and eventually piñon and juniper. Headwaters of some tributaries are in the Montane Zone. The Paria is a significant tributary in the Colorado River Basin and joins the Colorado at Lees Ferry in Arizona. It flows through the Plateau Uplands water province.

The headwaters of the Paria River are composed of several tributaries in Dixie National Forest and Bryce Canyon National Park. From there, the Paria flows through GSENM and then leaves the study area at the Arizona State line. This suitability assessment covers the river and major tributaries within the boundaries of the Monument, as well as designated BLM wilderness outside the Monument boundaries.

As prescribed in the WSR Act and by BLM policy, the area included in this evaluation is the river area and its adjoining tributaries within the river corridor. Generally, the corridor width cannot exceed an average of 320 acres per mile, which is usually measured approximately $^1/_4$ mile from the mean high-water mark on both sides of the channel. Corridor boundaries for Federally designated and administered WSRs may vary based on a number of conditions, but are usually delineated by legally identifiable lines (survey or property lines). They can also be delineated by some form of on-the-ground physical features (i.e., topography, natural or man-made features such as canyon rims, roads, etc.), which provide the basis for protecting the river's identified values and practicality in managing those values.

Suitability Recommendations

Approximately 112 miles of the Paria River System are recommended suitable for inclusion in the National Wild and Scenic Rivers System (NWSRS). The suitable river segments include: Upper Paria River 1, 2; Lower Paria River 1, 2; Deer Creek Canyon; Snake Creek; Hogeye Creek; Kitchen Canyon; Starlight Canyon; Lower Sheep Creek; Hackberry Creek; Lower Cottonwood Creek; and Buckskin Gulch (refer to Table A4.2).

The Paria River and selected tributaries contain outstandingly remarkable river values that are worthy of addition to the National Wild and Scenic Rivers System. These values are scenic, recreational, wildlife, geological, historic, and riparian. Unique natural and human resources would benefit from the protection and enhancement afforded by NWSRS designation.

Bull Valley Gorge is considered non-suitable and is released from further consideration for inclusion in the NWSRS. The rationale for dropping this 5.9 mile segment is that, while this segment has outstandingly remarkable values, the outstandingly remarkable values are derived from its geology rather than from being a riverine system. The recreation interest lies in the tributary as a slot canyon. The BLM felt that the quality of river characteristics in this segment will not significantly enhance nor contribute to the NWSRS.

Characteristics Which do or do not Make the Area a Worthy Addition to the NWSRS

The segments identified in this report are in the Colorado Plateau Physiographic Province, Canyonlands and High Plateaus sub-provinces. Currently, there are no designated components of the NWSRS within this province. The Nationwide Rivers Inventory identified the Paria River from the Colorado River to its source as possessing values of national significance as identified by the National Park Service (NPS) (NPS, 1982, 1986, 1988). The Paria was listed as an object of historic or scientific interest when the Monument was designated.

The adjacent Arizona Strip District identified the segment of the Paria River within designated wilderness (in Utah) as suitable. This determination (although in the administrative record) was not included in the Arizona statewide WSR review in 1994 - 1996.

The Paria River, Hackberry Creek, and Bull Valley Gorge were nominated as eligible rivers in *A Citizen's Proposal to Protect the Wild Rivers of Utah.*

Those segments of the Paria River system listed as suitable above will be worthy additions to the NWSRS based on the following outstandingly remarkable values:

- **Scenic:** Throughout the spectacular Paria River Gorge, rugged canyons, colorful outcroppings and imposing cliff faces provide unique opportunities for sightseeing and photography.

- **Recreational:** The Paria River and major tributaries provide outstanding opportunities for hiking, backpacking, photography, and nature viewing. The canyons and colorful sandstone outcroppings, known as slickrock, attract visitors from throughout the United States and other countries.

- **Geologic:** The Paria River cuts through strata of successively older rocks ranging in age from Cretaceous through Permian, a time span of more than 150 million years, as it descends toward the Colorado River.

- **Riparian:** The river provides a unique riparian corridor through an otherwise arid region. This corridor provides habitat for 7 amphibian species, 242 bird species, 59 mammal species, and 21 reptile species. Among these are the threatened and endangered southwestern willow flycatcher, peregrine falcon, Mexican spotted owl, and wintering bald eagles. There are documented nests in the riparian vegetation along the banks of the Paria. This is also important historic habitat for the population of reintroduced bighorn sheep.

- **Historic:** The Paria River system has provided water for humans in a relatively arid environment for at least 10,000 years. Prehistoric Native American Indian sites are prolific throughout the system. The river system continues to provide water for humans today.

Current Uses and Land Ownership Concerns

- **Energy and Minerals:** An existing oil and gas lease is within the river area on the north end of Hackberry Creek. There are no oil or gas wells within the river area. There are no mining claims. All Federal lands in the Monument are withdrawn from new mineral entry.

- **Water Resource Developments, Water Rights, and Instream Flow:** Existing water developments and rights within the river area are associated with livestock, agricultural, and domestic use. Sixty four surface, 6 underground, and 7 spring water rights within the river corridor are on record with the State of Utah. Of these, the BLM holds the rights to 31 surface, 2 underground, and 7 springs. Utah Division of Water Resources reports a total of 3.14 cfs surface diversions in Buckskin Gulch, Hackberry Creek, Hogeye Creek, Lower Paria River, and the Upper Paria River. Three of these cfs are held by private landowners. Existing, valid water rights would not be affected by designation. Future water developments on or above public land segments will be subject to environmental analysis where Federal permits, approval, or funding would be involved.

  There is some concern from Kane County Water Conservancy Districts and potential users over the possible effects designation could have on proposed or potential projects. This concern should be addressed by Congress upon WSR designation. No action taken in this Plan or WSR recommendation can establish an appropriation or Federal reserved water right. Only Congress, passing legislation designating a WSR, may establish a federal reserved water right. If Congress creates a reserved right, the BLM or the State of Utah may establish instream flows necessary to meet the purposes of the designation. Such a reserved right would, by law, be established with the priority date of the designation and would be junior to all preexisting water rights in accordance with the existing State priority system.

- **Forestry, Agriculture, and Livestock Grazing:** There are no forested lands within the study area. Agriculture, in the form of irrigated farmlands, occurs near the communities of Tropic, Cannonville, and Adairville. These areas of agricultural use are not within the study area. However, farming has an impact on the river study area. On private land, water is diverted out of the channels to irrigate the farmland and the runoff returns to the river bed. When this water returns, it can carry remnants of chemicals used to spray the fields.

  Livestock grazing is permitted on public lands throughout the river area. The Paria and its tributaries flow through seven allotments and serve as boundaries for others. The Paria flows through Bunting Well, Cottonwood, and Headwaters Allotments. Grazing along the river and on the uplands is primarily a fall/winter/spring operation. The river is the major source of water in this area for livestock. Grazing will continue to be governed by applicable laws and regulations.

  Six fences cross the Paria within the corridor. These include allotment boundary fences, pasture fences, and State section line fences. If not removed after use, these wire fences typically wash out or are taken up during high flows, but are rebuilt each year as flows recede or grazing operations start up. Although some landowners expressed concerns that they would not be able to maintain these fences with designation, neither WSR designations made in this Plan, nor designation by Congress would affect the ability of landowners or ranchers to maintain fences.

- **Recreational Use and Facilities:** Corridors of the Paria River and its tributaries provide outstanding opportunities for recreational activities. These include hiking (canyoneering), backpacking, bird-watching, photography, camping, and nature

study. Recreational use is estimated to be about 7,200 visits per year (based on 1997 RMIS data).

The BLM has developed trailheads at Whitehouse, Buckskin Gulch, and Wire Pass. These sites receive most of the Paria visitors (6,986 in FY 1997). Access for hiking and river-based activities is available at these trailheads. A visitor contact station and developed campground are located near the Whitehouse trailhead. The old Pahreah townsite and Paria Movie Set are located near the river corridor north of Highway 89.

- **Transportation/Utility Facilities:** U.S. Highway 89 travels over the river at the lower end of the Upper Paria. Outside of the Wilderness area south of the Monument, dirt roads approach the water's edge, and in some places, ford the river. An historic travel route goes along the Upper Paria river channel, in and out of the river. Power transmission lines cross over the river at three places between the Pahreah townsite and Highway 89, and two others cross the Paria at the Wilderness boundary. WSR designation would not affect the ability to maintain these lines.

- **Private and Commercial Development:** All major visitor facilities and developments will be outside the Monument boundaries. There are 1,152 acres (5 miles) of private land within the river area. Development on these parcels is not a concern for river management.

- **Rights-of-Way or Leases:** Three rights-of-way (ROW) fall within the Paria River study area. They are for utility lines at T41S, R1W, S29 and 32; T42S, R1W, S16; and T43S, R1W, S 23.

Resources and Uses that Would be Enhanced or Curtailed by Designation

This section describes resources and uses that could be affected by designation of a Wild and Scenic River. As mentioned above WSR designations can be made only by Congress, or the Secretary of the Interior upon application of a State Governor.

- **Scenic:** Deep, narrow canyons and colorful rock walls provide exceptional opportunities for sightseeing and photography. During a BLM visual resources inventory, the river corridors were determined to have scenic quality A. This indicates that scenic qualities of the landforms, vegetation, and water form are extremely high, with great variety and distinction.

- **Recreation:** The Paria River and major tributaries provide outstanding opportunities for hiking, backpacking, photography, and nature viewing. The canyons and colorful sandstone outcrops, known as slickrock, attract visitors from throughout the United States and other countries. Thousands of hikers and backpackers a year visit the river as it flows through the Paria Canyon/Vermilion Cliffs Wilderness Area. Outside the Wilderness area, visitor use is quite low and dispersed.

  The Paria River Corridor is also accessed by motorized users. This use will be curtailed for the entire river corridor by the Monument Plan zone prescriptions.

- **Geological:** The Colorado Plateau is a region of generally horizontal geologic strata where plateaus and mesas are separated by deep canyons. The Paria River cuts through strata of successively older rocks ranging in age from Cretaceous through Permian, a time span of more than 150 million years, as it descends toward the Colorado River near Lees Ferry. The upper tributaries of the Paria include slot canyons, so defined because they are very deep with extremely narrow walls, are incised mostly into the Jurassic Navajo Sandstone. Southern portions of the Paria River and tributaries such as Buckskin Gulch, also form slot canyons. Kaibab Gulch, the upper reaches of Buckskin Gulch, is the stratigraphic type section for the Permian Kaibab Formation.

- **Riparian and Wildlife Habitat:** The river and tributaries provide riparian corridors through an otherwise semi arid region that support a wide variety of wildlife. As typical of wetland areas, the diversity of plants and animal around the washes and streams is greater than in the surrounding uplands. Various animal species rely upon the river area for consumptive use and other requirements. Special status animal species include bald eagles, southwestern willow flycatcher, Mexican spotted owl, and peregrine falcons. The riparian area is potential habitat for the recently reintroduced California condor. Other wildlife include bighorn sheep, mule deer,

raccoons, bats, reptiles, amphibians, waterfowl, raptors and other birds.

- **Vegetative Composition Varies Depending on the Zone:** Riparian and upland riparian communities associated with the river consist of native willows, cottonwoods, bulrushes, cattails, and non-native tamarisk. Stretches that receive disruptive, scouring floods on a regular basis remain in a disclimax successional stage. Other vegetation includes rushes, sedges, and a variety of grasses and forbs. Algal mats are found in some quiet pools. Upland vegetation is described as a mixture of desert shrub, sagebrush, piñon and juniper, grasslands, mountain shrub, and coniferous woodlands. The distribution of these associations is determined largely by elevation and precipitation.

- **Cultural (Prehistoric and Historic) Resources:** There is evidence to suggest that cultural properties and features representing the entire time span of human occupation of the region are present along or immediately adjacent to the Paria River. This should not be surprising since water is necessary to all human activity. The probable span of use of the riverine habitat began about 11,000 years ago. Numerous prehistoric sites can be attributed to several Native American cultures: Anasazi and Fremont, Hopi, Zuni, Paiute, and possibly Navajo. The river system continues to be important to modern societies. Cultural properties likely to be encountered along the river include rock art sites, agricultural features, storage cists, rock shelters, habitations, artifact scatters and pioneer-era homesteads, ranches, and travel routes. These cultural properties exhibit a challenge in balancing conservation and utilization, but also offer great opportunities for scientific study, public education and interpretation.

- **Wilderness and Wilderness Study Areas:** Seventy-five percent of the Paria River and tributaries run through WSA and a designated Wilderness area. The river and tributaries flow through the Paria-Hackberry WSA and The Cockscomb WSA. Lower Paria River-2 segment and the entire eligible segments of Buckskin Gulch and Wire Pass are within the Paria Canyon/Vermillion Cliffs Wilderness Area.

- **Streamflow and Water Quality:** The Paria River and tributaries are free-flowing streams, although intermittent. A mean flow of 9.08 cfs is recorded by United States Geological Survey south of the town of Tropic. High flows typically occur during the spring runoff period and as a result of summer thundershowers. Frequent scouring of the river as a result of high flows constantly affects channel morphology and the riparian ecosystems.

  Utah Division of Water Quality has classified the Paria River and tributaries from the State line to headwaters as 2B–protected for secondary contact recreation (boating, wading), 3A–protected for cold water fish and other cold-water aquatic life, and 4–protected for agricultural use.

  The Paria generally is turbid and saline. The water appears turbid for most of the year to the degree that the substrate is not visible. Dissolved salt and sediment loads are high, reducing the feasibility and success of impoundments on the river. There is heavy algal growth in pools during periods of low water.

Federal, Public, State, Tribal, Local, or Other Interests

Kane County Water Conservancy District does not support WSR designation for the Paria River System. They are specifically concerned about being able to maintain the powerlines on the lower portion of the Paria River and upgrading the crossing on Skutumpah road over Bull Valley Gorge. However, WSR designation may or may not affect the County's ability to improve the crossing over the canyon, dependent on an individual site specific assessment of impacts. This is not a concern for this analysis, as Bull Valley Gorge is not considered suitable. Powerlines would be able to be maintained although upgrades would be evaluated in light of impacts to river values.

Kane County Water Conservancy District also expressed concern for the private property owners near Highway 89. They feel that those private property owners would not be able to use their water rights if designation occurs. They are also concerned that ranchers would not be able to repair and build fences in the river corridor. Under the WSR Act, designation neither gives nor implies government control of private lands within the river corridor. Although Congress (or the Secretary of the Interior upon request of the Governor for 2(a)(ii) rivers) could include private lands within the boundaries of the designated river area, management restrictions would not apply.

There was also concern that motorized users would not be able to access the Paria River Corridor as they have in the past. Because cross-country vehicle travel is limited to designated routes in the

Management Plan, motorized and mechanized use in the Paria River corridor will be curtailed.

Native American Indian tribes are concerned about rock art in the canyons. WSR designation could contribute to the protection of the rock art and surrounding area.

Ability to Manage

The Paria River study area is considered to be manageable based on the current level and type of activities taking place, and assuming that adequate staff and funding is available to carry out management of a designated WSR. Designation of the Paria River System would slightly raise the level of management needed above that identified in the Monument Plan. The free-flowing character and outstandingly remarkable values identified in the eligibility study can be protected through management actions. If the rivers are designated, a management plan will develop management objectives and a strategy for long-term protection of the river's outstandingly remarkable values to the full extent of the WSR Act.

River protection is considered in environmental assessments of proposed projects and in all land use and activity plans. The majority of the river system on public land is in either designated Wilderness or WSAs. Dams could be constructed in wilderness but not on WSR. Overlapping designations complement WSR designation and provide additional authority, protection, and guidance for the BLM to manage the river if designated.

Historical or Existing Rights that Could be Adversely Affected by Designation

No impact on existing or historical rights would occur as a result of designation.

Estimated Cost

No additional easements or land acquisitions are anticipated as a result of NWSRS designation. Section 6(b) of the National WSR Act specifically prohibits the use of condemnation for fee title purchase of lands if 50 percent or more of the acreage within the river area boundary is in public ownership (Federal, State or local government). This is the case with both the Escalante and Paria River Systems. It is estimated that an additional $70,000 or 1 FTE would be needed to develop, implement, and maintain actions identified in the river plans for the Escalante and Paria River systems.

Table A4.1. Escalante River System Suitable Segments

Segment	Segment Description	Length (Nearest 0.1 mile)	Tentative Classification	Characteristics which make the area a worthy addition to NWSRS	Current uses and land ownership concerns	Resources and uses that would be enhanced or curtailed by designation	Federal, public, state, tribal, local, or other interests
Escalante River-1	Confluence with Pine Creek (T35S, R3E, S9) to Highway 12 (T35S, R4E, S12)	13.8	Wild	high scenic quality, high recreational use, numerous geologic features, important fish and wildlife habitat, prehistoric sites, historic homestead and routes, riparian area, fossil tracks, petrified wood	2 powerlines, 1 pipeline, and 1 telephone line cross the Escalante River and Calf Creek near their confluence, T35S, R4E, S12. There is also a ROW for State Route 12 near Escalante River and Calf Creek confluence.		Garfield County is concerned about their ability to replace Wide Hollow Reservoir upstream of this segment. Escalante River-2
Escalante River-2	Highway 12 to east side of private land (T35S, R4E, S13)	1.1	Recreational				
Escalante River-3	Private land to boundary (T36S, R6E, S4)	19.2	Wild				

Table A4.1. Escalante River System Suitable Segments (continued)

Segment	Segment Description	Length (Nearest 0.1 mile)	Tentative Classification	Characteristics which make the area a worthy addition to NWSRS	Current uses and land ownership concerns	Resources and uses that would be enhanced or curtailed by designation	Federal, public, state, tribal, local, or other interests
Harris Wash	T36S, R5E, S35 to Monument boundary (T36S, R5E, S36)	1.1	Wild	high quality scenery, recreational attraction, southwestern willow flycatcher habitat, historic route, prehistoric sites, scientific study opportunities			1 mile Federal public water reserve. Garfield County concerned that WSR designation would curtail improving Hole-in-the-Rock Road.
Lower Boulder Creek	Downstream side of T34S, R4E, S11 to Escalante River (T35S, R5E, S22)	13.5	Wild	high quality scenery, high recreational use, part of the Escalante Canyons ONA and prehistoric sites	a pipeline ROW exists along the north end T34S, R4E, S11 &12	fisheries could be enhanced with designation	
Slickrock Canyon	Monument boundary (T33S, R5E, S22) to Deer Creek (T33S, R5E, S33)	2.8	Wild	high quality scenery, recreational values, prehistoric sites, and riparian areas			
Lower Deer Creek-1	Slickrock Canyon (T33S, R5E, S 33) to Burr Trail Road (T34S, R5E, S16)	3.8	Recreational	high quality scenery, Deer Creek Recreation Area, Escalante Canyons ONA, southwestern willow flycatchers, prehistoric sites, threatened plant, and riparian area	1.7 miles of the section of Deer Creek between Slickrock and the Burr Trail is on private land. Irrigation pipeline and ROW for maintenance of water system on part of pubic land, water right to approx 1.5 cfs for irrigation and non-consumptive use through this section. This is not a significant diversion for this stream.	fisheries could be enhanced with designation. A Federally threatened species, the Ute-ladies' tresses orchid, is found in the Deer Creek drainage and could be further protected by WSR designation	part of this segment is in the Escalante Canyons ONA
Lower Deer Creek-2	Burr Trail Road to Lower Boulder Creek (T35S, R5E, S9)	7.0	Wild				

Table A4.1. Escalante River System Suitable Segments (continued)

Segment	Segment Description	Length (Nearest 0.1 mile)	Tentative Classification	Characteristics which make the area a worthy addition to NWSRS	Current uses and land ownership concerns	Resources and uses that would be enhanced or curtailed by designation	Federal, public, state, tribal, local, or other interests
The Gulch-1	Monument boundary (T32S, R6E, S32)to Burr Trail Road (T34S, R5E, S13)	11.0	Wild	high quality scenery, outstanding recreation, natural arch, peregrine falcon habitat, riparian area and petrified wood			ONA
The Gulch-2	Along Burr Trail Road to T34S, R5E, S13	0.6	Recreational				
The Gulch-3	Below Burr Trail Road to Escalante River (T35S, R5E, S36)	13.0	Wild				
Steep Creek	Monument boundary (T33S, R5E, S24) to The Gulch (T34S, R5E, S12)	6.4	Wild	high quality scenery, recreational values, and riparian areas			
Lower Sand Creek and tributary Willow Patch Creek	Sweetwater Creek (T34S, R4E, S8) to Escalante River (T35S, R4E, S10)	13.2	Wild	high scenic quality, part of an ONA, fish habitat, southwestern willow flycatcher habitat, historic trail, and riparian area	a utility line crosses the north end of Lower Sand Creek, T34S, R4W, S8		
Mamie Creek and west tributary	Monument Boundary (T34S, R3E, S16) to Escalante River (T35S, R4E, S7)	9.2	Wild	high scenic quality, part of an ONA, high recreational use, natural bridge, fish and wildlife habitat, prehistoric and historic sites including an historic mail trail, and riparian area			part of Phipps Death Hollow ONA
Death Hollow Creek	Monument boundary (T34S, R3E, S3) to Mamie Creek (T34S, R3E, S36)	9.9	Wild	high scenic quality, part of an ONA, southwestern willow flycatcher habitat, prehistoric sites, dinosaur tracks, and riparian area			segment is in the North Escalante Canyons ONA

Table A4.1. Escalante River System Suitable Segments (concluded)

Segment	Segment Description	Length (Nearest 0.1 mile)	Tentative Classification	Characteristics which make the area a worthy addition to NWSRS	Current uses and land ownership concerns	Resources and uses that would be enhanced or curtailed by designation	Federal, public, state, tribal, local, or other interests
Calf Creek-1	Headwaters (T34S, R4E, S10) to Lower Calf Creek Falls (T34S, R4E, S24)	3.5	Wild	high scenic quality, Calf Creek Recreation Area, bird habitat, prehistoric site, and riparian area	public campground, diversion on lower end. 2 powerlines, 1 pipeline, and 1 telephone line cross the Escalante River and Calf Creek near their confluence, T35S, R4E, S12. There is also a ROW for State Route 12 near Escalante River and Calf Creek confluence	recreation could be enhanced	segment is in an ONA and Recreation Area
Calf Creek-2	Lower Falls to Calf Creek Recreation Site (T35S, R4E, S1)	3	Scenic				
Calf Creek-3	Recreation Site to Escalante River (T35S, R4E, S12)	1.5	Recreational				
Twenty-five Mile Wash	T37S, R6E, S2 to Monument boundary (T37S, R6E, S25), does not include unnamed tributary on north side	6.8	Wild	high scenic quality, high recreation use, bird habitat, rock art, prehistoric structures, and riparian			ONA
Escalante River System Total		140.5					

Note: Short segments of Scorpion Gulch, Fools Canyon, Coyote Gulch and Willow Gulch may be on Monument lands. These segments will be managed and suitability recommendations made with the remainder of the named segments by Glen Canyon National Recreation Area.

Table A4.2. Paria River System Suitable Segments

Segment	Segment Description	Length (Nearest 0.1 mile)	Tentative Classification	Characteristics which make the area a worthy addition to NWSRS	Current uses and land ownership concerns	Resources and uses that would be enhanced or curtailed by designation	Federal, public, state, tribal, local, or other interests
Upper Paria River - 1	Little Dry Valley (T38S, R2W, S21 to T41S, R1W, S7)	21.7	Wild	high quality scenery, recreational attraction, exposed geologic strata and arches, and historic sites	• Paria River runs through 3.1 miles of private lands in the Recreation segment • landowner in the lower segment periodically constructs a diversion utilizing their water rights. While this blocks the flow temporarily, the diversion is frequently washed out by high flows retaining the free-flowing character • there has been motorized use and commercial horseback rides in the river corridor - it is used as a livestock driveway and historic throughway	• motorized use will be curtailed, by the provisions of the Plan • enhance southwestern willow flycatcher habitat • enhance deer population and all other wildlife • regardless of designation, decisions in the Plan close these areas to cross-country vehicle use	• Kane County Water Conservancy District is concerned that private property owners would be constrained from using their water rights or building fences • also concerned that ranchers would not be able to drive their cattle down the Paria like they do now • also concerned that the existing powerlines could not be maintained if designated
Upper Paria River - 2	T41S, R1W, S7 to downstream side of private property south of Highway 89 (T42S, R1W, S28)	16.9	Recreational				
Lower Paria River - 1	Downstream side of private property (T43S, R1W, S10) to Wilderness boundary (T43S, R1W, S23)	3.3	Recreational	high quality scenery, Wilderness area, high recreation use, narrow canyon, peregrine falcon, and historic travelway		habitat for peregrine falcon and southwestern willow flycatcher would be enhanced	4.9 miles is in the designated Paria-Vermilion Cliffs Wilderness area outside GSENM boundary
Lower Paria River - 2	Segment in Wilderness (T43S, R1W, S23 to T44S, R1W, S12)	4.8	Wild				

Table A4.2. Paria River System Suitable Segments (continued)

Segment	Segment Description	Length (Nearest 0.1 mile)	Tentative Classification	Characteristics which make the area a worthy addition to NWSRS	Current uses and land ownership concerns	Resources and uses that would be enhanced or curtailed by designation	Federal, public, state, tribal, local, or other interests
Deer Creek Canyon	Headwaters (T40S, R3W, S1) to Paria River (T40S, R2W, S4)	5.2	Wild	high quality scenery and recreation values			
Snake Creek	Entire (T39S, R2W, S26 to T40S, R2W, S10)	4.7	Wild	high quality scenery and recreation values			
Hogeye Creek	Entire (T40S, R2W, S 1 to T40S, R2W, S26)	6.3	Wild	high quality scenery and recreation values			
Kitchen Canyon	T40S, R2W, S28 to Starlight Canyon (T40S, R2W, S34)	1.3	Wild	high quality scenery			
Starlight Canyon	Entire (T41S, R2W, S7 to T40S, R2W, S35)	4.9	Wild	high quality scenery			
Lower Sheep Creek	Bull Valley Gorge (T39S, R2W, S7) to Paria River (T39S, R2W, S17)	1.5	Wild	high quality scenery, recreational values, spotted owl sighting	• motorized use • livestock driveway • historic throughway	• motorized use will be curtailed if classified Wild • regardless of designation, decisions in the Plan close these areas to motorized vehicle use	
Hackberry Creek	Top (T38S, R1W, S29) to Cottonwood Creek	20.1	Wild	recreational and scenic values, spotted owls, and riparian area	limited OHV use at upper and lower ends	• motorized use will be curtailed if classified Wild • regardless of designation, decisions in the Plan close these areas to motorized vehicle use	
Lower Cottonwood Creek	Confluence with Hackberry Creek to Paria River	2.9	Recreational	recreational values and ecological continuity	1.3 miles run through private lands		

Table A4.2. Paria River System Suitable Segments (concluded)

Segment	Segment Description	Length (Nearest 0.1 mile)	Tentative Classification	Characteristics which make the area a worthy addition to NWSRS	Current uses and land ownership concerns	Resources and uses that would be enhanced or curtailed by designation	Federal, public, state, tribal, local, or other interests
Buckskin Gulch/Wire Pass	Wilderness boundary (T43S, R2W, S15) to Paria River (T44S, R1W, S12)	18.0	Wild	high quality scenery, high recreational use, slot canyons	• a lone watering hole in this segment used for livestock • motorized vehicles are used to maintain range improvements	spring and vegetation could be enhanced	segments are in the designated Paria-Vermilion Cliffs Wilderness area outside GSENM boundary
Paria River System Total		111.7					

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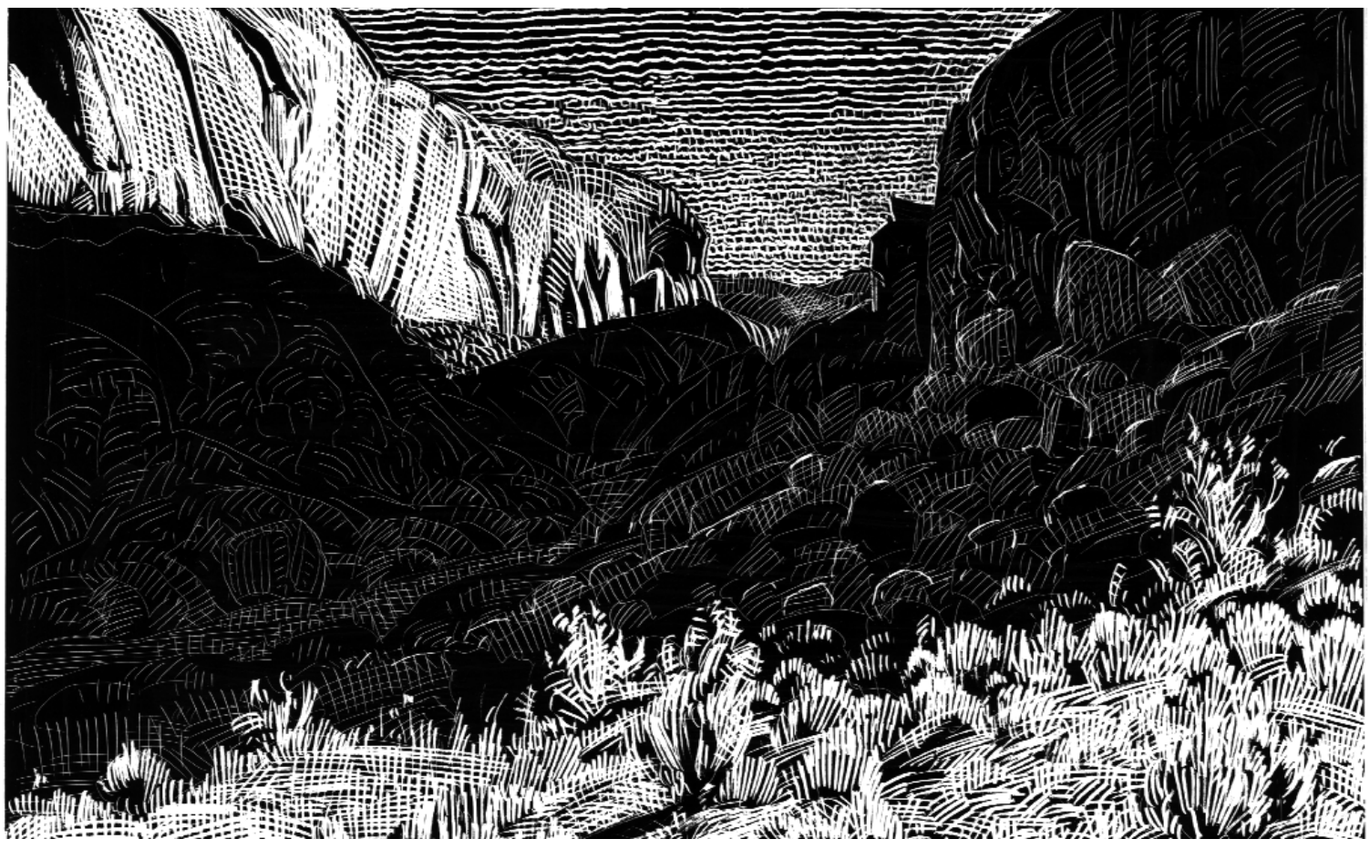

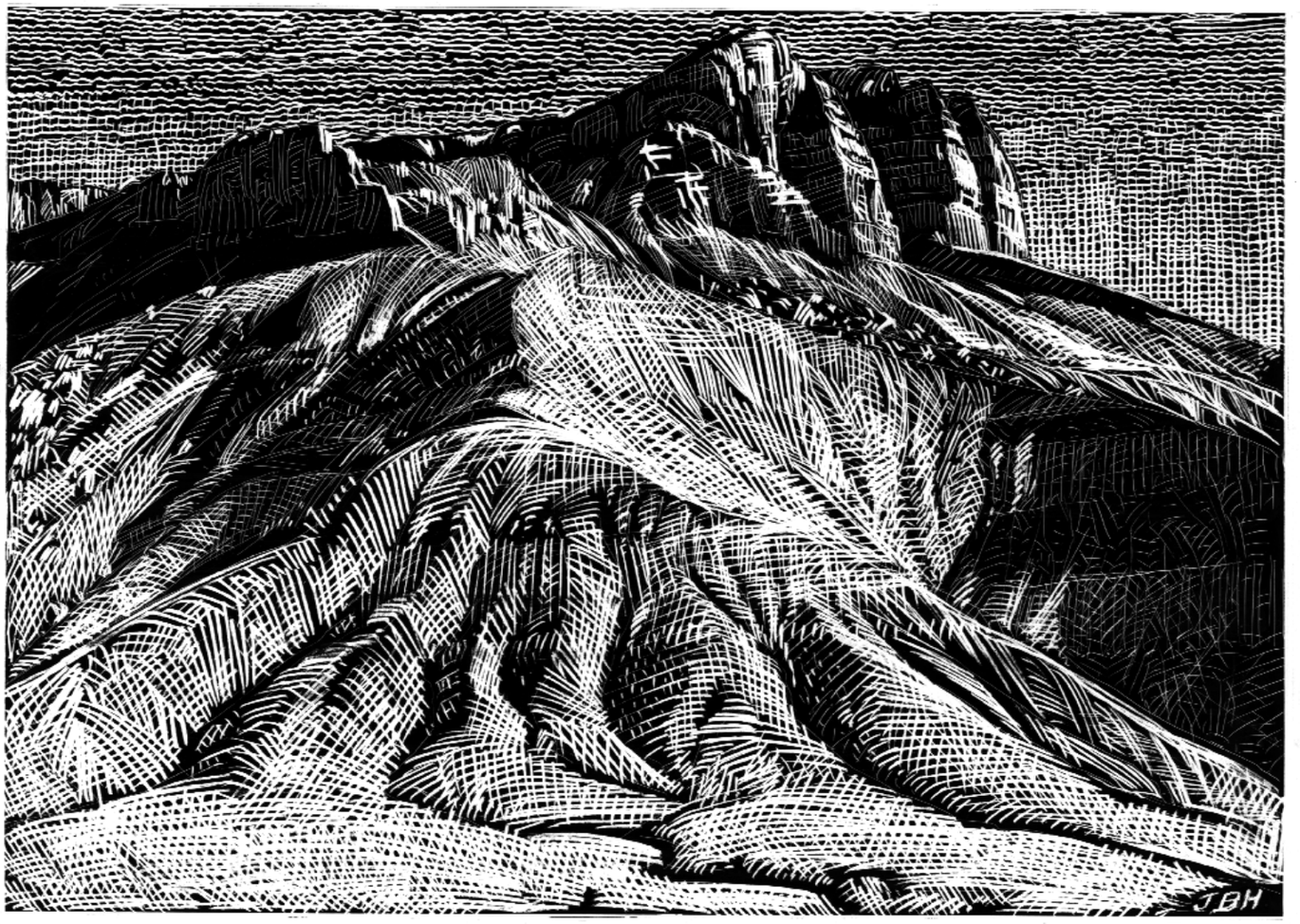
JBH